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Forage Pest Continues Slow Spread in East

WASHINGTON — A single specimen of European chafer, a root-feeding lawn and forage pest, was found in July near Capon Bridge, W. Va., the first chafer find in West Virginia since 1954, the U.S. Department of Agriculture reports.

The European chafer, first discovered in the U.S. in western New York in 1940, has been slowly spreading despite federal-state efforts to stop it with quarantines and insecticidal treatments. It was confined to nine counties in western New York and an area near Meriden, Conn., until 1954, when an infestation at Capon Bridge was discovered. Insecticide treatments were thought to have eradicated this outlying infestation.

The chafer was identified for the first time from Brooklyn, N.Y., this spring. It has been found in recent months infesting additional areas of New York City, according to pest control officials of USDA's Agricultural Research Service. Chafer beetles have infested 14 square miles in Brooklyn and adult beetles recently were trapped in Manhattan and on Bedloe Island, Governor's Island and Staten Island in New York harbor.

The infested area in Brooklyn extends from the entrance of the Brooklyn-Battery tunnel eastward along Long Island's south shore on both sides of the Belt Parkway. To help prevent spread of the beetles, turf areas along this parkway have been treated with the insecticide, dieldrin, cooperatively by the Agricultural Research Service, the New York State Department of Agriculture and Markets and the New York City Department of Parks. Pest-control workers are seeking outer limits of the infestation and are restricting movement of soil and plants likely to spread the insect.

The adult beetles are not economic pests but European chafer larvae are damaging pests of meadows, pastures

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NAC Asks for Advisory Committee to Coordinate Pesticide-Wildlife Research

Text of NAC Statement on Page 17

WASHINGTON—The National Agricultural Chemicals Assn. has asked that any research programs pertaining to the effects of pesticides on wildlife be coordinated with other such programs now being conducted by government agencies, state land-grant colleges, private research interests and the pesticide industry.

The request was included in a statement filed Aug. 4 by L. S. Hitchner, executive secretary of NAC, with the Senate Committee on Interstate and Foreign Commerce and the House Committee on Merchant Marine and Fisheries.

The two committees last week held public hearings on Senate Bill S. 1575 and House Bill H.R. 5813, which would increase present annual appropriations of about $280,000 (authorized by Congress last year) to more than $2,500,000 for pesticide-wildlife research under the direction of the Fish and Wildlife Service of the U.S. Department of the Interior.

Stating that the great progress made in the development and use of pesticide chemicals for the protection of the nation's health and in making available an adequate food supply has been primarily due to sound research programs of government agencies and private industry, Mr. Hitchner advocated that "an advisory committee from the interested groups be created to coordinate their research programs for the best interests of agriculture, public health and wildlife," and that "economic factors should be a part of any such research studies."

Pointing out that a tremendous amount of information on the subject of pesticides is already available in some of the fields of study, which the Fish and Wildlife Service indicated might be undertaken if increased appropriations are authorized, Mr. Hitchner said, "For example, toxicological data which must be developed by a manufacturer before registration and sale is available," and "already we know much about the acute and chronic toxicity of the 280 chemicals on the market."

Mr. Hitchner suggested "that the U.S. Department of Agriculture and the U.S. Department of Health, Education and Welfare be given an opportunity to present information on research programs now being conducted in this field and to express their views on future programs to the extent that any programs which will be adopted will be of a constructive and cooperative nature and will be conducted in the public interest."

The association statement also cautioned committee members that by increasing available funds from $280,000 to over $2.5 million in a year's time, needed money might be wasted by such a rapid expansion.

Lansing A. Parker, speaking for the Bureau of Sport Fisheries and Wildlife, USDI, said that last year's $280,000 ceiling on investigations was entirely inadequate. He recommended the bill be amended to eliminate any fixed amount as the authorized ceiling. "We believe the logical approach to financing the studies . . . is through the preparation of budget submissions developed in accordance with the needs of a sound, well planned research program," he told the committees.

Questioned later, Mr. Parker revealed that only $1.6 million is available at the present time for all wildlife research. He also stated it would be entirely unlikely that USDI would ever need the full (proposed) au-

(Turn to COORDINATE, page 17)

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Congress Passes Bill to Include Added Materials Under Federal Insecticide Act

WASHINGTON — The House of Representatives in session here July 30 gave final approval to a Senate amendment to H.R. 6436.

H.R. 6436, originally introduced in the House by Congressman Harold D. Cooley (D., N.C.), chairman of the House Committee on Agriculture, proposed an amendment to the Federal Insecticide, Fungicide and Rodenticide Act that would bring nematocides, plant regulators, defoliants and desiccants under the provisions of that law.

Following a public hearing on the bill, the House of Representatives passed H.R. 6436 on the consent calendar without any objections being raised.

Referred to the Senate Committee on Agriculture and Forestry for consideration, the bill was reported favorably by that committee with the addition of a technical amendment correcting a citation in the bill.

Explaining H.R. 6436 to the Senate, Sen. Spessard L. Holland (D., Fla.), a member of the Senate committee which had considered the bill and who was also an author of an identical bill in the Senate, said that the bill "will simply afford the public the protection which it also has in the fields of insecticides, fungicides and rodenticides, namely, a close regulation and control by the federal agency concerned."

Inclusion of nematocides, plant regulators, defoliants and desiccants in the Federal Insecticide, Fungicide and Rodenticide Act "automatically includes them under the Pesticide Chemicals Amendment to the Federal Food, Drug and Cosmetic Act," Sen. Holland said. "These new products, which were not included in the old act, will become subject to exactly the same kind of regulation and control."

While giving full protection to public interests, H.R. 6436 promotes the orderly regulation and marketing of these new chemicals on a uniform basis and this legislation will therefore be of benefit to all agricultural interests.

Commenting on the legislation, L.

(Turn to BILL, page 8)

300 Attend S. W. Fertilizer Conference; Hear of NPFI Activities, Fertility Programs

GALVESTON, TEXAS — Nearly 300 industry representatives, experiment station personnel and fertilizer control officials registered for the annual Southwestern Fertilizer Conference and Grade Hearing at the Galvez Hotel here, July 15-18.

An educational program on Thursday morning included talks by Dr. Russell Coleman and R. L. Beacher outlining southwestern activities of the National Plant Food Institute, emphasizing the progress of intensified county soil fertility programs in Arkansas, Texas and Louisiana. These trial programs, conducted by the state extension services with NPFI assistance, have met with marked success in terms of soil sample numbers and will be expanded to additional counties in these states and Oklahoma in coming months.

Ralph Johnson, Georgia extension agronomy leader, gave a report on the Georgia fertilizer educational program results.

Dr. J. Q. Lynd, Oklahoma State University agronomist, presented a slide talk and film illustrating results of pasture fertility research in eastern Oklahoma.

Jack Timmons, manager of Shreveport Radio Station KWKH, closed the morning session with an amusing and informative address on the need for better salesmanship, considering good sales training the "weakest

(Turn to CONFERENCE, page 17)

Ris-Van Constructing New Plant in Iowa

BELMOND, IOWA—Kenneth Van Duzer, president of Ris-Van, Inc., here, has announced a new fertilizer manufacturing plant will be constructed at Sanborn, Iowa, with production to begin Oct. 1. Ris-Van manufactures and distributes liquid mixed fertilizer for retailer dealer outlets in Iowa, Minnesota, Nebraska and South Dakota.

The new $150,000 plant will employ about 30 persons. Gene Janssen, Ris-Van superintendent of manufacturing, is supervising the construction. Ris-Van's other Iowa plants are in Belmond and West Union.

Farm Fertilizers Buys Nebraska Firm

OMAHA—Farm Fertilizers, Inc. here has purchased General Fertilizer Co., Fremont, Neb., and will operate it as a wholly owned subsidiary, R. E. Bennett, president of Farm Fertilizers, has announced.

The Fremont firm has been in production since 1953, and has facilities for handling both bagged and bulk goods. Ken Bauer will continue to be in charge of the Fremont office.

In announcing the purchase, Mr. Bennett said that "since we started shipping fertilizer over 11 years ago, we have always maintained a definite dealer policy and this policy will continue with our Fremont acquisition."

Minnesota Scientists To Launch Radioisotope, Farm Crop Study

ST. PAUL—Plant scientists at the University of Minnesota will soon begin a study of absorption of strontium-90 and other radioisotopes by farm crops.

The study will be part of a project financed by a recent grant of $32,890 from the Atomic Energy Commission. It will be directed by A. J. Linck and Thor Kommedahl, both members of the department of plant pathology and botany on the St. Paul campus. Researcher T. W. Sudia will be immediately in charge of the field work.

According to J. J. Christensen, head of the department, Mr. Linck and Mr. Kommedahl will also use radioisotopes as a major tool in studying crop plants and weeds and how they affect each other in fields.

Scientists plan to do the work in a year-around field laboratory at the Rosemount Experiment Station. They will study absorption of strontium-90 and other elements both through the roots and through the leaves, and speed of movement of the elements through the plants' internal system.

They will check rate of accumulation of strontium-90 in edible parts of the plants, and how this rate is affected by different levels of strontium-90, time of year and weather.

Other radioisotopes to be studied will include phosphorus, potassium, sulfur and carbon (all essential for plant growth) and cesium and cobalt.

The scientists plan to study several possible approaches to dealing with the fallout problem, such as giving the plants calcium or other elements at levels which may reduce the absorption of strontium-90.

Other aspects of the study will be important to farmers. Mr. Linck and Mr. Kommedahl will study ways weeds compete with field crops for fertilizer nutrients and other minerals. For example, they may put radioactive phosphorus in the soil, then with Geiger counters check uptake of the phosphorus by both weeds and crop plants. Similar studies have been conducted for several years by university agricultural researchers.

The overall project will also be a training program in radio biology for institute of agriculture students.

At the same time the larger grant was made, the Atomic Energy Commission granted the department $8,510 for equipment for educational and training work on the role of nuclear technology in agriculture.

Cotton Herbicide Use Up in Texas Area

YSLETA, TEXAS—The use of herbicides for weed control in cotton crops has increased rapidly the last two years. In 1957 only 1,000 acres were treated in the El Paso Valley, but this jumped to 15,000 acres for 1958. This year the weed killers will be used on more than 75,000 acres of cotton and other crops.

Despite the effectiveness of the materials, the application is no job for an amateur, according to Dr. P. J. Lyerly, superintendent and research coordinator at the El Paso Valley and Trans-Pecos agricultural experiment stations.

Dr. Lyerly says the cotton plants need to be from 12 to 18 in. high before application. With cotton crops, it is best to use a weaker solution and saturate the first inch of topsoil after cotton stalks have attained a root depth of from 4 to 6 in.

The application of certain herbicides may cause some chlorosis on the lower leaves of cotton, Dr. Lyerly said, but will not lower the yield.

Several farmers in the El Paso Valley are applying the weed killers by using a boom-type spray that covers five rows of cotton.

Eugene G. Ward

JOINS STAFF—Eugene G. Ward has been appointed to the Crag Agricultural Chemicals staff, according to Union Carbide Chemicals Co., Division of Union Carbide Corp. An Air Force veteran, Mr. Ward received his bachelor of science degree in agriculture from Oklahoma State University in 1959. Following a brief training period at the Crag Agricultural Chemicals headquarters in White Plains, N. Y., he will join the field sales organization. As an entomologist, Mr. Ward will be active in sales of Union Carbide's new Sevin insecticide.

IMC Reports Earnings Up 17% for Fiscal Year

CHICAGO—Record sales of $112,560,000 and a 17% increase in net earnings were reported by International Minerals & Chemical Corp. in audited figures for the fiscal year ended June 30, 1959.

Net earnings were $6,189,000 or $2.47 per share on the 2,349,427 common shares outstanding, compared with $5,273,000 or $2.09 per share on the 2,337,317 common shares outstanding for the 1957-58 fiscal year. Included in 1957-58 earnings was a non-recurring gain of 14¢ per share resulting from an adjustment in the company's pension costs.

This year's sales record represented a 9% gain over last year's total of $103,663,000. It was 6% above the previous high of $106,189,000 registered in 1956-57.

Heavy Rains, Torrid Heat Mean Disaster For Hundreds of Massachusetts Farmers

By GUY LIVINGSTON
Special Croplife Writer

BOSTON—Massachusetts plunged from a deluge of rain—which cost millions of dollars in crop losses, washed many farmers into bankruptcy, completely upset orderly crop rotation, depressed the local food market—to a drouth and heat wave. The torrential rains were followed by more than two weeks of blazing heat with temperatures constantly in the 90's.

The abnormal weather has raised havoc with Massachusetts' agricultural industry. Corn in the fields is only 2 ft. tall, when it should be at least 5 ft., and more than 30% of the corn crop is lost. Rotted rows of lettuce are a common sight throughout the state. The end of the season is already here for some farmers who are faced with financial ruin. Some have gone out of business. Others report that they doubt that they will be in farming next year.

Last year was a bad year for farmers in Massachusetts and many had to take bank loans. Banks are reported reluctant to advance more money to save the farms of those whose crops are ruined this season. In Middlesex County alone, farmers reported they suffered a 50% loss of their corn crop. The stalks just stood still, failed to grow and then yellowed. The potato crop is the same story and growers expect a 50% loss.

There has been no real early July corn this year. Farmers made four to five plantings of the crop to insure a steady supply during the season. But, because so much has been slow growing, practically all the corn will come into bearing at once, and this will provide a glut on the market. With an over supply, the price will plunge downward and there will be little profit for the Massachusetts corn growers.

The heat and sunshine came too late to do the growers any good. The pea crop is done, rotted off the vine, and it is too late to start another crop. Growers are expressing concern over blossom drop on winter squash vines which up to now have been a lucrative product in the state. A very small crop is expected because the heavy rain and rot have made the blossoms drop instead of setting. Pumpkin blossom drop has been reported almost everywhere throughout the state.

Tom Moore, market specialist for the Middlesex County Extension Service, estimating that the rains in June and July caused untold millions of dollars loss to New England farmers, especially in southeastern Massachusetts, detailed the case of one Massachusetts grower. He devoted 40 acres to corn and lost 20 acres of it. At the prevailing market price of about $1 bu., his loss from this commodity alone would be about $5,000 and it is too late to plant another crop that will pay off. This farmer also grows potatoes and so far has lost about 50% of them to rot, accounting for another $5,000 in loss.

It all started, said Oscar Tannenbaum, chief meteorologist at the Boston Weather Bureau, back in June when a storm swept out of the Gulf of Mexico and moved northeast bringing heavy rains into New England. Then, it began to rain again on June 13 because of a front moving in from the west. On June 14, a low pressure area developed near Boston. It rained every day to June 20th and farmers were beginning to worry. But, they shrugged it off, figuring that July would be a good weather month.

On July 10, tropical storm Cindy passed southeast of New England and then shifted course moving northeast along the coast. It rained through July 11 and Boston was belted with 2.5 in. of rain. In the first three weeks of July, Boston received 8.12 in. of rain and Worcester, biggest agricultural county, 7.02. The normal for this period is 3.78 for the entire month in Worcester and 3.18 in Boston.

To the west and northwest of coastal New England, the rain tapered off and there was good growing weather. In Vermont, a slight drouth was underway while the rains were belting Massachusetts. The rainfall in Vermont was close to normal in June. July rainfall there has been half of what is considered normal and farmers are beginning to worry.

In the tobacco growing Connecticut Valley farmers were complaining there wasn't enough rain in May for a good crop. Now, they've had too much rain and a serious blight has attacked the tender tobacco plants.

The fruit picture in Massachusetts is good, the rains have had little effect. Most fruit, about 2½ million bushels of apples and 100,000 bu. of peaches and pears are raised on high land and seldom affected by too much rain. However, blossom drop has been experienced by some orchardists.

Strawberry crops were wiped out by the rains, also cucumbers and melons were a total loss. The wet soil rotted the roots of many crops and in other cases restricted growth. If the rain didn't destroy the crops, the insects and fungi did. The moist weather was very favorable to development of fungus diseases on many plants and insects moved in to destroy crops.

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CHLORDANE was used to control ants, mosquitoes and other insects on 400 acres of camp grounds used for the Girl Scout Senior Roundup near Colorado Springs, Colo., July 3-12. The Roundup was the largest international encampment ever sponsored by Girl Scouts of the U.S.A. The 8,500 teenage girls and 1,500 adults who attended represented all sections of the United States, U.S. territories and 27 other countries. U.S. Air Force personnel sprayed the area shortly before the majority of the girls arrived. Many of the scouts who were veteran campers marvelled at the fact that there were no ants in the salad and no "dive bombing" mosquitoes in the tents at night.

New Mexico Firm Starts Fertilizer Brand

HOBBS, N.M. — The Slaughter Feed & Garden Center is now making its own brand of fertilizer and selling the product to retail dealers in eastern New Mexico and west Texas.

With the trade name of Hi-Ganic the fertilizer contains an organic base with nitrogen, phosphorus, iron and several trace elements added to it.

"It is being used mostly on gardens and lawns," said Ben F. Slaughter, manufacturer, "but we're also trying it on some grain sorghum plots to overcome the effects of high lime. The lime ties up the iron in the soil and causes a whitish color in grain sorghums and other forage crops."

The fertilizer is being mixed in a regular feed mixer which has been converted for the purpose. In addition to local sales, Mr. Slaughter has added one outside salesman who calls on dealers.

Dr. R. E. Wagner

Potash Institute Names Eastern Region Director

WASHINGTON—Dr. R. E. Wagner, head of the agronomy department at the University of Maryland, will join the American Potash Institute as director of its eastern region Sept. 1, according to Dr. H. B. Mann, president of the Potash Institute.

A nationally known agronomist and forage crops authority, Dr. Wagner will serve the states from Virginia through Maine, administering the Institute's various services to the land-grant colleges, official agricultural advisors, and fertilizer representatives in the area. Associated with him will be Dr. S. E. Younts, eastern agronomist of the Potash Institute.

Dr. Wagner is chairman of the grassland improvement steering committee of the American Society of Agronomy, chairman of the Society's Division VIII, past member of its board of directors, and former member of the executive committee of the Crops Science Society.

Researcher Cites Importance of Timing For Fertilization

MAGNOLIA, ARK.—A University of Arkansas Agricultural Experiment Station research specialist says the timing of applying nitrogen to pastures and crops may actually be more important than the total amount used.

Leslie Hileman and Paul Barlow, Columbia County agricultural agent, cited figures from a test made on the P. B. Carter farm near here.

They said Mr. Carter produced one and one-third tons more of Bermuda grass hay from 100 lb. of nitrogen put down in two applications than from 165 lb. applied at one time.

One experiment plot received 35 lb. of nitrogen on March 25, 1958, and and additional 70 lb. on May 20. It yielded 5.44 tons of hay per acre in three cuttings.

But there was a different story involved in the yields from a plot on which 165 lb. of nitrogen were applied on March 25, 1958. This plot produced only 4.06 tons of Bermuda hay—on identical types of soil.

Mr. Barlow said phosphate and potash requirements were met in each plot according to soil test needs. The county agent says he believes producers can obtain better yields by applying nitrogen to grass as it is needed than by using large amounts at one time.

RESEARCHER RETIRES

MADISON, WIS. — George W. Keitt, pioneer leader in research on plant disease, retired July 1 after nearly half a century at the University of Wisconsin. Mr. Keitt is internationally known for his work in control of major orchard fruit diseases. He was chairman of the department of plant pathology at the university from 1930 to 1955.

FIRST . . . AFTER TEXAS

OASIS, CAL.—The Fertile Acres Ranch in Oasis produced a 461 lb. bale of stub Acala-422 cotton, before anyone in Texas did. The Harlingen, Texas, area has consistently produced the first bale of cotton in the country and the local Chamber of Commerce has a standing offer of $2,500 to anyone delivering the first bale of cotton to that city.

The bale, which was the earliest bale ever ginned in California, was produced from a field experiment conducted by the Harboe Management Service in cooperation with California Spray-Chemical Corp.

As soon as the Harlingen Chamber of Commerce heard of the California accomplishment, it issued a statement that the bale didn't qualify because it was from a stub field.

Three days after the California bale was ginned, a news story from Harlingen said that the first bale had been ginned in Texas again. The article conceded that California had ginned earlier but made it clear that Texas wasn't recognizing it.

Canadian Association Tells Meeting Plans

MONTREAL—The Canadian Agricultural Chemicals Assn. announced program plans for its Seventh Annual meeting to be held at the Chateau Frontenac, Quebec City, Sept. 20-23.

Highlights of the affair include:

Monday, Sept. 21—Annual general meeting, golf tournament and a trip to Ste. Anne de Beaupre and Montmorency Falls.

Tuesday, Sept. 22—Panel on agricultural extension headed by Dr. Harold R. Baker, University of Saskatchewan; "Air Spraying of Forestlands," by Dr. F. E. Webb, Forest Biology Laboratory, Canada Department of Agriculture; "Quebec Market for Pesticides," by Charles Gagne, College of St. Anne de la Pocatiere, and Andre Descheigny, Cooperative Dederee de Quebec Bureau and the luncheon speaker, Dr. C. H. Goulden, assistant deputy minister, Canada Department of Agriculture, will speak on departmental reorganization.

Wednesday, Sept. 23—Panel on Maleic Hydrazide and "Future of Corporate Farming," by Bram Dees, president of Hardee Farms.

FMC Adds Department; Names Manager, Assistants

NEW YORK—Creation of a new advertising and publicity department for Food Machinery & Chemical Corp.'s chemical divisions was announced by J. V. Vernon, corporate vice president.

The chemical divisions of FMC are Westvaco Mineral Products, Westvaco Chlor-Alkali, Becco Chemical, Chemicals & Plastics and Niagara Chemical. The new department will provide services to each of these divisions (and to appropriate staff departments) in the areas of advertising, technical and sales literature and product and personnel publicity.

Named as manager of the department is Dr. Desmond M. C. Reilly, manager of advertising and technical information of FMC's Chemicals and Plastics Division since 1957.

Named as assistant manager (publicity) in the new department is Robert B. Rumely, formerly FMC chemical division's public relations representative.

Don Hanson, named as assistant manager (advertising) has been assistant advertising manager with FMC's Niagara chemical division since July, 1958.

Washington Co-op Starts 2 Fertilizer Plants

SEATTLE, WASH. — Washington Cooperative Farmers Assn. liquid fertilizer plants are now in operation at George and Royal Camp, near Moses Lake, according to John M. Farmer of this city. Mr. Farmer is an official in the co-op's fertilizer and farm chemicals department.

The plants are the first sections of larger stations to be put into operation at the new site this year, he said. Bean and grain receiving facilities will be installed at both places by fall, as will oil and gasoline service, according to present plans.

Massachusetts Entomologist Granted Honorary Degree

AMHERST, MASS. — Dr. Charles P. Alexander, long-time head of the department of entomology at the University of Massachusetts, was granted an honorary D. Sc. degree by the school recently. The citation, as read by Dr. J. Paul Mather, president, commented upon Dr. Alexander's thirty years as head of the department of entomology, and seven years as dean of the school of science. He was also commended for his "technical instruction, inspiring example and friendly faith, gratefully remembered by a host of Massachusetts alumni." Dr. Alexander is an authority on the crane fly which he has studied for many years. His citation said that these explorations "have led to a highly significant and lasting contribution to scientific knowledge."

Dr. C. P. Alexander

AEROSOL PACKAGE CONTEST

NEW YORK—The Eighth Annual Aerosol Package Contest, to select the best aerosol packages of the year, will be held in conjunction with the 46th annual meeting of the Chemical Specialties Manufacturers Assn. at the Mayflower Hotel, Washington, D.C., Dec. 7-9, 1959.

New Mexico Farmers Fertilize for Top Vegetable Yields

LOVINGTON, N.M.—Two of the most ardent fertilizer boosters in this area are the Uyemo brothers, Bob and Tad. These two Japanese-American farmers have 400 acres of irrigated land, on which they grow cotton and vegetables. About 250 acres is planted to tomatoes, onions, cantaloupes and cabbages.

"Most people don't use enough fertilizer," said Bob Uyemo. "Some of them also apply it at the wrong time. We've found that for vegetables 100 lb. of available phosphorus to the acre is needed, also 100 lb. of potash and nitrogen in varying quantities from 25 to 100 lb."

The brothers have also been experimenting with trace elements, especially boron. The results are still not complete, but they think it slightly increased the vegetable yield.

The phosphorus and potash are put on before planting, while most of the nitrogen is sidedressed. When shipping vegetables a long way, an adequate supply of potash will prevent the tomatoes from becoming soggy.

The Uyemo brothers also have a strict program for controlling insects, and have learned to identify almost every type of bug or worm existent in the area. Sometimes the cabbage plants must be sprayed every three days, especially when the loopers strike.

"Too many farmers just starting to grow vegetables will lose a crop to insects or some kind of blight," said Bob. "You can't let up on a control program for even one day. Sometimes it is expensive, but that is one cost you must not stop to consider. Even a slight insect damage can ruin the quality of vegetables."

The Uyemo brothers truck some of their vegetables to distant markets, some is sold to truckers, and the rest is marketed at their roadside vegetable and fruit stand.

As proof that the chemical program pays off is their 15 to 18 tons of high quality tomatoes to the acre, and cotton that consistently produces much greater than the county average.

Chemical Company Executive Sees Bright Future as Fertilizer Industry 'Grows Up'

MEMPHIS, TENN. — The farm chemical industry has done a poor job of merchandising its products, but at last it is growing up. Prospects for the future have never been brighter, both for the dealer and the formulator.

This is the opinion of R. C. Herndon, vice president of the Chapman Chemical Co. of Memphis. The firm has been one of the country's largest in making chemicals for the wood industry, but is now rapidly increasing its farm chemical department. Mr. Herndon is in charge of production and sales of all agricultural products, which mostly include insecticides, weed killers and defoliants. The sales area covers not only Tennessee but practically all the mid-south. Defoliants are sold as far away as west Texas.

"I think our own record exemplifies the growing importance of farm chemicals," he said. "The industry has been held back by low prices, and too often the products we sold were dictated by others. This was particularly true at the formulator's level."

"Now, however," he continued, "I see a dawning realization on the part of the dealer that agricultural chemicals is a business within itself and not necessarily an adjunct to implement, feed and seed lines."

Mr. Herndon says that in his trade area, some wide-awake dealers are making a profitable business of farm chemicals. They are buying better products, keeping up with new developments and are giving more service to growers.

One encouraging sign, he says, is the growing number of young farmers. Most of them are better educated than their fathers and are more receptive to new ideas. They are beginning to realize that profitable crops can be grown only through the use of fertilizers and a strict insect control program.

Mr. Herndon says that customer meetings and various types of educational programs are essential if the dealer plans to build a business of farm chemicals. He must know what his products are, what they will do and how to apply them.

He also sees a time when farm chemicals will not be sold by every firm in town, but will be concentrated in the hands of a few dealers, who will merchandise the materials more efficiently than at present.

There is also a growing trend toward liquid materials. Mr. Herndon says his own firm now is concentrating more on liquids and reducing the output of chemicals in powdered form.

SALES CLINIC

NEW YORK—The Salesmen's Association of the American Chemical Industry, Inc., will hold its Eighth Annual Sales Clinic on Sept. 28 at the Roosevelt Hotel, New York City, announced D. P. Jones, Shell Chemical Corp.

INSECT, PLANT DISEASE NOTES

New Mexico Cotton Still Plagued by Bollworms

LOVINGTON, N.M.—Cotton farmers of this area are being bothered by bollworms and grasshoppers, according to Jim Gilstrap, county agent.

He says that range grasshoppers are coming into the fields and eating along the edges. Most farmers are keeping them in check, but can't do much about the vast hordes on the range pastures.

Bollworms have just been starting. In about half the fields the small worms are working, while in some fields only the eggs are found.

Mr. Gilstrap says most farmers have experienced severe crop losses because of insects and now have a good control program.

There has also been an increase of verticillium wilt on cotton. This is one disease for which chemicals are still ineffective.

South Dakota 'Hoppers Threaten Feed Crops

BROOKINGS, S.D.—Bill Hantsbarger, entomologist for the Agricultural Extension Service, reports grasshoppers are now moving out of field margins, roadsides, alfalfa fields and soil bank lands, threatening adjacent crops that farmers have been counting on for the bulk of their winter feed supplies.

Late sown grain, flax, corn and soybeans are the most likely targets for the insects. He stated there still is time to save croplands. Spraying will be particularly effective if the insects have not yet invaded grain fields.

If spraying of entire acreage is not possible, he said strip spraying would help considerably.

He added that control measures taken this year will also provide protection for the 1960 crop.

Second Brood Borers Light in Iowa

AMES, IOWA—Second-brood corn borer infestation will be light in most Iowa areas, said Harold Gunderson, Iowa State University entomologist.

A survey by entomologists from the U.S. Department of Agriculture, Iowa State Department of Agriculture and Iowa State University, he said, showed the percentage of plants infested ranged from zero to 100% and averaged 31% over the state. The number of borers per 100 plants ranged from zero to 1,150 with the heaviest infestation in northwest Iowa. The average was 41 borers per 100 plants. Both these figures are lighter than the results of a survey taken in 1958 on the same week, he added.

Comparing with last year, Mr. Gunderson noted that the northern third of the state had about the same percentage of plants infested, but the average number of borers per 100 plants was 25% less than in 1958. In the central portion the percentage of plants infested was again about the same as last year but the borers per 100 plants averaged only one-fourth as many as last year.

In the southern third of the state, the infestation this year was hardly more than one-fifth of the 1958 count. The number of borers per 100 plants was one-thirtieth of that in 1958.

The survey in each of the areas was conducted in the center tiers of counties and in the tallest corn along the highway.

It looks now as though the northern half of Iowa will be the only area in which there will be large numbers of second brood moths, Mr. Gunderson said. Probably three fourths of the first brood larvae will pupate to form a second brood.

Mr. Gunderson also said there is a wide range of corn heights over the state. The size ranged from 12 in. to 8 ft. tall, and often a wide variation could be seen in the same field. The tallest corn is the most heavily infested by the first brood, he said.

Only about 10% of the fields were tasseling in the northern half of the state, he added. This means the "second brood moths will find a lot of late corn."

Roughly 75% of the first brood of corn borer is mature or nearly mature, he added. About 10% of the total has pupated. Mr. Gunderson said the first of the second-brood moths have probably emerged. On the basis of the survey, Mr. Gunderson pointed out that borer development in 1959 is a little ahead of 1958.

He said that it will take perfect weather and ideal conditions to produce a heavy second brood anywhere in Iowa. The chances for this are highest in northern Iowa.

Late corn is most attractive to second-brood moths, and in good weather corn with silks that were still green and tassels still shedding pollen on Aug. 1, may have received enough egg masses to justify chemical control.

Any field that shows 100 unhatched egg masses per 100 plants on a single day should be sprayed, he added.

Second Branch Broomrape Outbreak in California

SACRAMENTO—State and county plant pathologists, combing tomato fields in the Sacramento River delta,

Take those big preseason savings on LION® E-2 now!

It's the one and only ammonium nitrate you can safely store for big spring markup and extra profit! Lion E-2 is free-flowing when you get it...free-flowing when you sell it...no matter how long you store it!

NO CAKING...GUARANTEED. Lion E-2 prills won't break down, crumble or cake under the heavy weight of stacking in shipment or storage. E-2 is free of dust and fines ... not affected by extreme temperature changes or humidity. You and your customers can buy now, store safely until used. Guaranteed storage-stable.

TAKES LESS STORAGE SPACE. Lion E-2 has the greatest density of any ammonium nitrate on the market. It's less bulky ... takes 20% to 25% less storage space. It saves you needed floor area. It isn't necessary to spread out E-2 in smaller stacks like old style forms of ammonium nitrate. With E-2 you stack higher utilizing all available storage area. without fear of caking.

EASY-TO-HANDLE BAGS. Lion E-2 multiwall bags are specially coated with Monsanto Syton®—the antislip agent that lets you stack Lion E-2 higher ... move it faster ... handle it easier. It helps you save time, work and space ... reduces material losses through breakage due to slippage.

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Inorganic Chemicals Division
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have found a second infestation of branch broomrape.

The plant parasite which preys on tomato vines was discovered on Roberts Island in San Joaquin County, several miles distant from the first infestation found on Grand Island in southern Sacramento County.

County and state officials are seeking the best means of controlling or eradicating the plant pest. Meanwhile, a field by field search for new infestations continues.

Meanwhile, high temperatures over the past several weeks have been conducive to development of red mite in some northern California pear orchards.

Heavy scorching has been noted in a few orchards where mites have been present for some time.

Growers have been advised to maintain close, accurate watch of the mite build up. Particular emphasis was laid on the upper portions of trees exceeding 10 to 12 feet in height and the interior portions of all densely foliated trees. In these areas, farm advisers said, mite populations often remain in small numbers and form the foundation for later heavy infestations.

Aphids Building Up On Colorado Crops

FT. COLLINS, COLO.—Aphids in damaging numbers are showing up on ornamentals, garden crops and field crops in areas of the state, the Colorado Insect Detection Committee reported.

Also causing serious damage are a number of forest and shade tree pests which the committee found to be "unusually abundant" in the foothills areas of eastern Colorado, and various species of mites which are attacking corn, beans, alfalfa and fruits on both sides of the Continental Divide.

The cherry rust mite is appearing on cherry leaves in Delta and Mesa counties, and the clover mite has been found on peaches in Delta County. Principal forest damage has been caused by the European pine shoot moth. The committee reported 30% of Ponderosa pine needles have been mined by this mite on the front slopes and foothills in the Colorado Springs area of El Paso County.

Spotted alfalfa aphid populations ranging up to 250-300 per hundred sweeps were found in Crowley County, with lesser numbers in Montrose, Garfield, Prowers, Bent, Otero and Pueblo counties.

Populations of pea aphid on alfalfa are being reduced by predators and hay harvesting in some areas, but Delta, Montrose, Mesa and Garfield counties still have from 5,000 to 12,000 of these aphids per 100 sweeps.

Alfalfa in Crowley and Bent counties is showing some damage from blister beetles. In Larimer County, beetles are migrating to edges of cut alfalfa fields.

The two-spotted spider mite has been found on lower leaves of corn in Garfield County, and is moving to upper leaves in Otero County. Corn earworm activity is relatively light, with some reported in Otero, Saguache, Weld and Mesa counties.

Rocky Ford continues as the center of most six-spotted leafhopper population.

Sugar beet webworm light trap counts ranged from 985 in Saguache County to about a fourth that number in Otero, Boulder and Weld counties.

Lygus Continues Damage On Arizona Cotton

PHOENIX, ARIZ.—Lygus continued to build up and destroy squares of all sizes, as well as blooms and small bolls on cotton in all parts of the state. Very few farmers are paying attention to them and indications are that they will reduce cotton yields again this year.

Beet armyworms are still a serious problem in all pink bollworm treated areas. In areas where pink bollworm treatments were not applied, beet armyworms were being controlled with regular recommended insecticides.

In Maricopa County, Lygus bugs were found to be on the increase. Many fields showed as high as 42% of the squares damaged by the insect. Beet armyworms are also severe in many fields. Cotton bollworm infestations were low, but some fields showed a potential hazard. Several fields were heavily infested with brown stink bug. Spider mite populations ranged from medium to heavy, with considerable damage in some fields.

In Graham County, Lygus bugs continued to increase. Counts averaged 25 per 100 sweeps in the valley. Some bollworms were also showing up.

In Cochise County Lygus counts were high in some areas. Cabbage loopers were also present in some fields.

Lygus and fleahoppers were bad in some Pima County fields. Average for fields in Marana area where no treatment had been made was 25 per 100 sweeps. Some beet armyworms and bollworms were also present.

In Pinal County it was reported that beet armyworms were still bad in scattered fields. Good controls were received with regular insecticides where no pink bollworm program had been used. Lygus counts were on the increase and nymphs were building up. Bollworm eggs were on the increase.

In Yuma County, Lygus and cotton leaf perforators were increasing.— J. N. Roney.

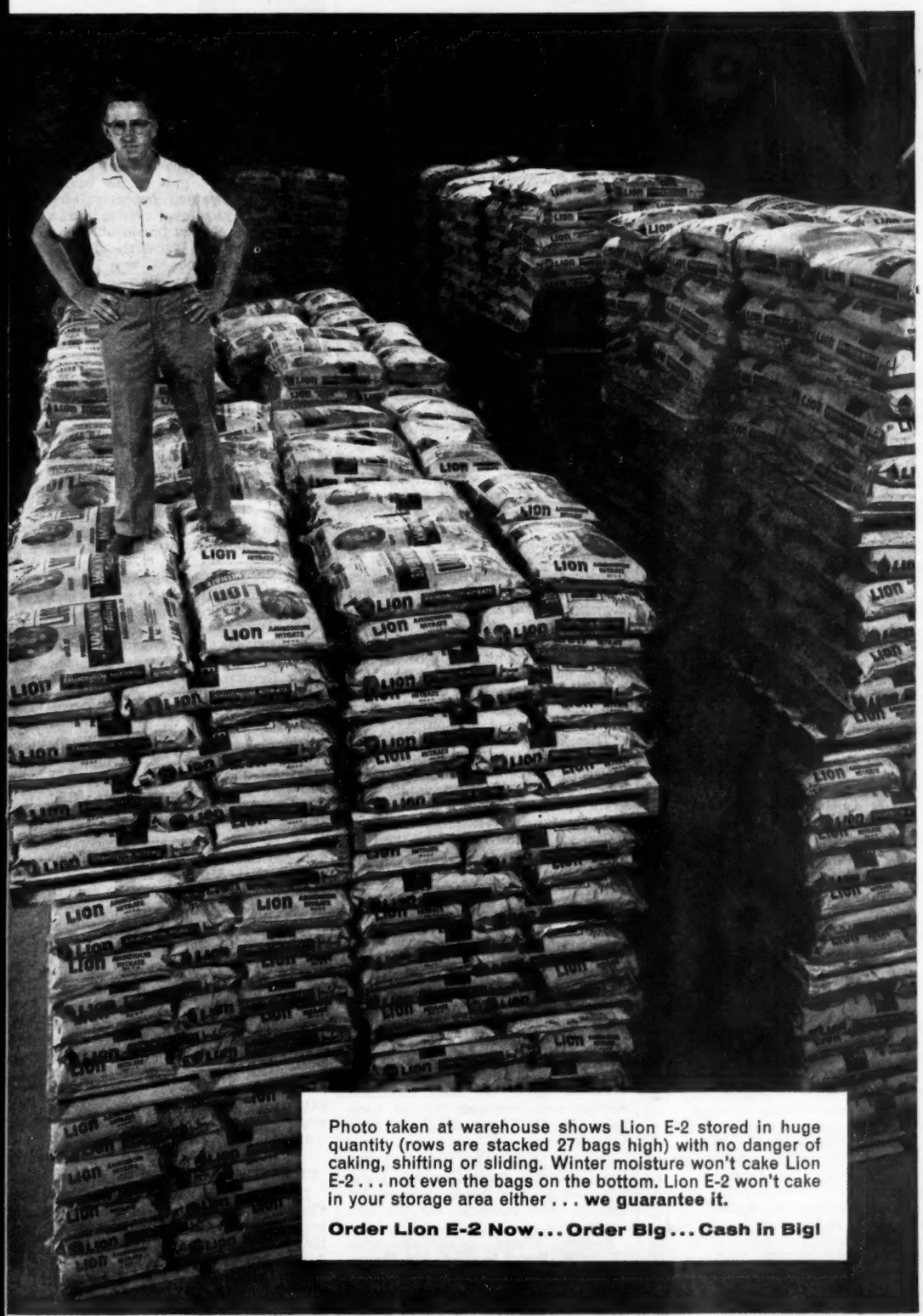
Survey Shows Hessian Fly Infestation Heavy in Kansas

MANHATTAN, KANSAS—The survey of 1959 wheat stems showed considerably more Hessian fly infestation than last year across the northern half of Kansas. The counts in southeast Kansas were lower this year. South central counts were about the same as last year.

Volunteer wheat could provide a build up of this insect this fall. Heavily infested areas should consider delayed planting until the fly free date or the use of resistant varieties.

Grasshopper counts ranged from less than one in crops to five per sq. yd. in margins in Butler, Cowley, Chautauqua, Elk, Greenwood, Lyon, Wabaunsee, Shawnee, Douglas, Johnson, Marshall, Pottawatomie, Jackson, Nemaha, Brown, Doniphan, Atchison,

(Turn to INSECT NOTES, page 20)



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Further Discussion About Ionic Relationship in Soil

By VINCENT SAUCHELLI
Chemical Technologist
National Plant Food Institute

What happens, chemically, when fertilizer is mixed with soil, or placed in a water culture or dissolved in water as in fluid fertilizers? It splits up into parts called ions, which are further differentiated into cations carrying a positive charge of electricity and anions, with a negative charge. The action is called ionization. For example, sodium nitrate in solution yields sodium $(Na)+$ and nitrate $(NO_3)-$ ions. Fertilizers are, in the language of chemistry, "salts," consisting of one part called the base (the cation) and one part, the acid (anion). This is elementary chemistry, of course; and yet, how strange that so many who should and do know better, ignore this simple fact.

It was K. Bondorff, a Dane, who back in 1923 pointed out that fertilizers, being salts, would produce salt effects in the soil solution. Dr. Hugh Nicol, a noted British scientist, has in recent years been arousing interest in these same salt effects(1) by stressing they are of fundamental significance in a proper understanding of how fertilizer acts to feed plant life. His numerous contributions on the subject point up the logical consequences of the biological effects of the ions of a salt and how prevalent among agricultural workers are the misapprehensions about such ionic effects. A brief digest of some of Dr. Nicol's comments follows:

In most of the general discussions of fertilizers it is more usual to refer to the nutrient elements N, P, K, rather than to the totality of the chemical components; that is, to the anions as well as the cations. The anions seem to be disregarded. (In this connection the phosphatic anions $(H_2PO_4)-$ and $(HPO_4)--$ are excepted.) The main emphasis is generally on the N, P, K nutrient elements; sometimes, secondary and micro-nutrients may be included. This practice is indefensible in view of the known effects which the chemical partners of the nutrient triad (the anions) create in the soil solution. It must be remembered that when a fertilizer compound is put into the soil to improve crop growth two functions operate: a nutrient function resulting from the effect of the N, P, K, and other cationic factors; and a saline or anionic function due to the presence of the negatively charged ions. The fertilizer ions enter into a complicated chemical relationship with ions already present in the soil solution and on the colloidal complex of the soil.

An example may help to visualize the action: When normal superphosphate is placed in a soil it ionizes and the calcium phosphate portion yields calcium $(Ca)++$ and $(H_2PO_4)-$, $(HPO_4)--$ ions. The gypsum or calcium sulfate portion of the superphosphate also ionizes to yield $(Ca)++$ and $(SO_4)--$ ions. Ammonium/sulfate in a soil yields $(NH)+$ and $(SO_4)--$ ions. Muriate of potash yields $(K)+$ and $(Cl)-$ ions. Now it would be just as wrong to interpret field responses from sulfate of ammonia by sole reference to its $(SO_4)--$ ions as it is to attribute all its effects to the $(NH_4)+$ ions. Similarly, it is wrong to credit responses to normal superphosphate exclusively to the phosphatic ions or to the calcium ions. Both kinds of ions are present and both exert their respective actions. Agronomists have to a large extent recognized this and in field tests to study phosphate effects now prefer to use triple super because it contains little or no calcium sulfate.

(1) Proc. No. 39. The Fertiliser Society (London); Fert. & Feedstuffs, 1957, December 4 issue.

Furthermore, while scant consideration is given to the saline or anionic influences in soil reaction the physical effects of the combined ions are for the most part ignored or considered of no consequence. One result of this attitude is evident in the way liming is considered. Lime may supply either calcium or magnesium or both and to lime a soil is to furnish these nutrient elements as well as to affect the acidity. Liming is generally regarded as somewhat different from the application of calcium or magnesium in the form of chemical fertilizer. This is indeed strange. No two practices, that is, liming and fertilizing, could have a more identical function. Each is to furnish the soil with nutrients for improving crop growth. Certainly the effects of one practice cannot in reason be divorced from the effects of the other.

G and pH

Agricultural workers have a means for measuring the degree of acidity or the hydrogen ion concentration of the soil. This is expressed as the pH or the negative logarithm of the hydrogen ion concentration. Dr. Nicol believes, as a result of investigations at the West of Scotland Agricultural College conducted by Dr. C. L. Whittles, that it is necessary to measure also the electrical conductivity of the soil solution if one is to understand the nature of ionic balance. For this purpose, one needs to have a material point of departure, a referrent. This is provided by calcium sulfate or gypsum. Experiments have shown that calcium sulfate has an ionic balance so close to that found in humid agricultural soils of northwestern Europe that it can serve as the model salt. The ionic balance of salts in soil solution may be measured, by conductivity equipment, with reference to properties of calcium sulfate. It is calculated from proportions of ions or by taking account of chemical or electrical properties. Agreement with or deviation from the chemical balance of a neutral salt such as calcium sulfate can thus be measured whether in a natural water or in a water extract of soil treated or untreated with fertilizer or lime. The resultant solution may be regarded as in chemical or calcium-sulfate balance when the total cations and the total anions are in the same ratio by weight of 1:2.4. This is the ratio of these ions in calcium sulfate. This weight ratio can be represented by the capital letter G, the initial letter of gypsum, the common name for calcium sulfate.

If the G value of a soil solution deviates significantly from 2.4 that soil is considered either abnormal naturally or made so by faulty fertilization. The G ratio cannot indicate anything about the degree of acidity or of the effect of the concentration of salts. Electrical conductivity measurements will gauge the total effect of salt concentration just as pH gauges the degree of acidity. G involves the ratio of the totality of ions in the solution.

Any fertilizer may be considered as a single substance or as a compound of mixtures for these measurements. For example, the G value of muriate of potash (KCl) is 0.91. Compared with the G value of gypsum it is low and thus in a mixture it would tend to have a strong unbalancing effect. Dr. Nicol deduces from this that the chlorine anion $(Cl)-$ should not of itself be condemned as toxic in a fertilizer, but instead that when muriate is used as a fertilizer its undesirable effects are to be attributed to its unbalancing effect. Sulfate of potash has a G value of 1.23 which is much better than that of muriate. Nitrate of potash (KNO_3) has a G value of 1.58 which is still better. G for nitrate of soda is 2.70. Hence, a mixture of nitrate of soda and muriate will give a better ionic balance than nitrate of potash alone. In all cases involving total effects of a fertilizer mixture, all the ions—cations and anions—are to be considered and not merely those usually regarded as having a nutrient value.

pH/pC Concept

Fertilizer salts exert a dual effect —nutrient and saline—in the soil solution, the one inseparable from the other. The G or anion-cation ratio is only one single expression of the complete saline function with which are associated always the effects on soil reaction measured as pH and on electrical conductivity measured as pC. The pC value is expressed as the negative logarithm of the conductivity measured in ohms. The pH and pC measurements are to be made whenever fertilizer salts are involved having alkaline and acidic properties. Dr. Nicol suggests the equation $pL = 2pH - pC$ be used to measure this relationship.

More of these considerations will be given in future releases. Enough has been given perhaps to suggest that there is more to this problem of soil fertility and its relationship to crop growth than is provided by the oversimplified considerations usually accorded it even in agronomic circles.

NPFI Awards Grant For Pine Tree Study

WASHINGTON—A grant of $800 has been made by the National Plant Food Institute to the Southeastern Forest Experiment Station of the U.S. Department of Agriculture for research on forest fertilization. The studies will be conducted on young loblolly pine trees growing in the Piedmont section of South Carolina. The specific objective is a determination of the best time of year to sample the foliage in order to best relate the nutrient status of the tree with the availability of nutrients in the soil.

Dr. Carol Wells, soil scientist, and Dr. Louis J. Metz, leader, forest soils research, at the Union Research Center, Union, S.C., will supervise the investigations.

The studies will be confined to planted loblolly pine, 5 to 10 years old, growing on or near the Calhoun Experimental Forest in the South Carolina Piedmont and each tree will be sampled six times in the course of the study, which will be of one year's duration. The data thus obtained will be analyzed at the Union Soils Laboratory of the Southeastern Forest Experiment Station.

This is another in the series of projects initiated through the efforts of Dr. L. C. Walker, southeastern regional forester of NPFI, in its program to encourage, promote and coordinate forest fertilization research in the southeastern region of the U.S.

Nutrilite Adds New Sales Staff Members

BUENA PARK, CAL.—Several new staff appointments reflecting an increase in the sales force at agricultural and animal products sales, Nutrilite Products, Inc., of Buena Park were announced by Robert Trescott, sales director.

Allen W. Arff, who formerly occupied sales positions with several Western firms, has been appointed district sales manager for the company in the Los Angeles-Orange County area.

Richard A. Fields, formerly with the California Spray-Chemical Corp. for several years, has been appointed district sales manager for the San Diego area.

George Watts, previously with Philip R. Park, Inc., of San Pedro, and Alex Struthers & Co., Advertising, has been named sales office manager.

Spencer Chemical Names New Officers; Announces Sales

John C. Denton Byron M. Kern

Kenneth A. Spencer

KANSAS CITY, MO.—Kenneth A. Spencer announced that the board of directors had effected the following changes in officers of Spencer Chemical Co.:

Mr. Spencer, formerly president, was elected chairman of the board and chief executive officer.

C. Y. Thomas, formerly general vice president—operations, was elected vice chairman of the board.

John C. Denton, formerly vice president—agricultural chemicals division, was elected president.

John P. Miller, formerly general vice president—finance, was elected senior vice president—finance.

Joe E. Culpepper, formerly general vice president—marketing, was elected senior vice president—marketing.

Byron M. Kern, formerly general manager of production—agricultural chemicals, was elected vice president —agricultural chemicals.

Mr. Spencer stated that he and the other directors and officers of the company are confident that these changes will not only provide good continuity of management, but will also foster improved current performance and more aggressive growth and development of the company in the future.

Mr. Spencer, as chairman of the board, will continue to be the chief executive officer of the company. He has been president and chief executive officer since the company's inception in 1941.

Mr. Denton, who has held various engineering, production and management positions with the company since he joined it in 1942, will, as president, be the chief operating officer of the company. Mr. Denton was also elected a member of the board of directors and of the executive committee of the board. He is 40 years of age.

At the same time, Mr. Spencer announced that sales of Spencer Chemical Co. pushed to a new peak in the fiscal year ended June 30. The gain of nearly 28% was matched by a corresponding increase in net income over the previous year.

The sales increase of nearly 12½ million dollars stemmed from improved performance by all three product divisions—agricultural chemicals, industrial chemicals and plastics.

Sales of $57,584,334 compared with $45,148,936 in the previous fiscal year. Net income for the year was $5,164,831, equal to $4.10 a common share, after preferred dividends, compared with $4,038,056, or $3.09 a share.

CHARTER OF INCORPORATION

DOVER, DEL. — Foundation Seed Corp. filed a charter of incorporation with the corporation department of the secretary of state's office here. Authorized capital stock of the firm is $2,000. Corporation Trust Co., 100 West Tenth St., Wilmington, Del., is serving as the principal office.

READER VIEWS

To the Editor:

It was encouraging to me, and may be news to you, that the findings of Dr. J. F. Crow, University of Wisconsin in your front page article about "Heredity not the use of insecticides being the cause of insecticidal resistance in flies" reaffirm a statement of some four or more years ago from a professor at MacDonald College, Ste. Anne de Bellevue, P.Q., of Montreal's McGill University.

If findings are correct it will be encouraging to the industry which will be able to state that, through the use of its insecticides, it is not creating insecticide-resistant flies through non-lethal doses but, instead, is steadily destroying the insects which are not resistant to the chemicals now on the market and is continually searching for and producing chemicals to cope with those which are, as yet, resistant to existing chemicals.

Furthermore, processors, like ourselves, who use more than one insecticide in one finished product can now cope with the old argument that we "are making flies resistant to more than one insecticide at the same time." Instead we can now say that we "are eliminating by destruction more than one 'strain' of flies (as far as chemical resistance is concerned)."

We cannot "ride this too hard" since too many other factors come into the picture but it is important and encouraging to read your article "putting the record straight."

Kenneth Roast
Manager for Canada Carbola Chemical Products, Ltd.
Montreal, Que., Canada

'Outstanding Farmer' Lauds Fertilizer Help

DOUGLAS, GA. — Wilbert Mullis, chosen by the Douglas Junior Chamber of Commerce as the "Farmer of the Year" in Coffee County, Georgia, has a favorite crop—tobacco.

And after weather conditions, the 33-year-old farmer considers fertilizer the most important item in good tobacco production. He limed his tobacco land, and used 1,900 to 3,000 lb. of 3-9-9 fertilizer per acre. He sidedressed with 3-9-13. The land on which he planted his 8.2 acres of tobacco (two plots in separate fields) was high and rocky.

He made his good crop with the White Gold variety, placing it on land where he grew corn the previous year.

Russel J. Hahn Named Vanderbilt Sales Engineer

NEW YORK—The R. T. Vanderbilt Co., specialties department, New York City, has announced the appointment of Russel J. Hahn as sales engineer. The specialties department produces and markets chemicals for the cosmetic, pharmaceutical, agricultural and lumber industries.

Mr. Hahn will service Vanderbilt accounts in the middle-Atlantic states, from Maryland north, including eastern Pennsylvania. He will cover all New England and the Province of Quebec, in Canada.

A graduate of the University of Rhode Island, Mr. Hahn is a member of the Entomological Society of America.

NEW SUPERVISOR

UNIVERSITY PARK, N.M.—New supervisor of the Fruit and Vegetable Standardization Service of the New Mexico State Department of Agriculture is O. H. Stanley, formerly marketing specialist with the department.

STUDY AVAILABLE

COLLEGE STATION, TEXAS — Since curly mesquite supplies much of the forage produced on the Edwards Plateau, studies were conducted during 1949-51 on the Sonora substation by the Texas Agricultural Experiment Station relative to rates of utilization, chemical composition, productivity and longevity of this grass. The studies were carried out by L. B. Merrill, associate in range management at the Sonora substation, and Dr. Vernon A. Young, head of the range and forestry department at Texas A&M College. Copies of the publication MP-331 are available from the Agricultural Information Office, College Station, Texas.

DUSTER KILLED

SACRAMENTO — Dean Eugene Sparks, 34, Biggs, Cal., crop duster, was killed when the plane he was flying crashed into a sugar beet field near Knights Landing. The crash occurred while he was spraying a safflower field on the England Brothers Ranch.

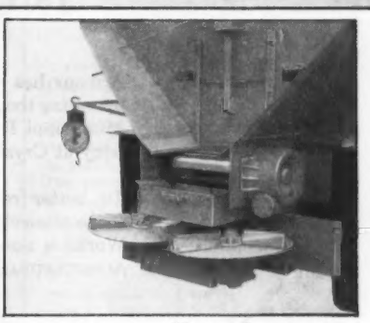
NEW LEADER
W-I-D-E-SPREAD
L-52S

Covers the Field with Lime or Pelletized Fertilizer in Half the Time!

- **Cuts in-the-field operating costs, time on the job and soil compaction at least 50%! Some owners cover an acre a minute!**
- **Means more jobs each day, more profit per job, greater customer satisfaction!**

Here's a rig built specially for heavy-duty spreading! A big 25 h.p. auxiliary engine drives the large 24″ twin spinners to deliver uniform, very wide applications. The sealed gear cases for the spinners are oversize with larger gears and shafting for trouble-free operation under heavy loads. The 24″ all-steel, riveted, roller-type conveyor chain is driven by the PTO through heat treated gears in a sealed, aluminum gear case. A drive shaft drive, with cab-controls, is available and synchronizes conveyor speed and truck speed to eliminate spreading skip in slippery fields. The heavily reinforced body of the L-52S, 45° angle sides, and 24″ wide conveyor eliminate bridging and permits a lower center of gravity. Capacities range from 6 to 10½ cubic yards for bigger pay-loads.

The L-62S engine driven combination spreader, with a 30″ conveyor and larger capacities, is recommended for *extremely* heavy applications.



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The test box slides into position above the spinners. The feedgate is set—the spreader driven 50 ft.—the material coming off the conveyor into the test box is weighed—and calibrated in pounds per acre on the scale dial. Takes the guess work out of spreading . . . and more accurate spreading means more business! Be sure to order this attachment with your rig.

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Perfection Spring & Equip. Co., Kansas City (Mo.)
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MO.—Koste Mach. Co., Inc., Hazelwood
Perfection Spring & Equip. Co., Kansas City
MONT.—H-C-L Equip., Inc., Billings and Great Falls
NEB.—Badger Body Mfg. Co., Omaha
NEV.—Lovelock Welding, Lovelock
Win Ward Co., Pomona (Cal.)
N.H.—Heil Equip. Co. of Boston, Brighton (Mass.)
N.J.—Bohr Spreader Service, Inc., Harrington (Del.)
N.M.—P & R Truck Equip. Co., El Paso (Tex.)
N.Y.—H. O. Penn Mach. Co., Inc., Poughkeepsie
N.C.—O. H. Stanard, Raleigh
OHIO—Heisler's, Inc., Willard
D. L. Phillips, Damascus
Geo. Briggs Ford Co., Defiance
Schodorf Truck Body & Equip. Co., Columbus
Burg & Brown Imp. Sales, Richmond (Ind.)
OKLA.—Truck Equip. Co., Fort Smith (Ark.) and Springdale (Ark.)
Southern Equip. Co., Little Rock (Ark.) and El Dorado (Ark.)
ORE.—Oscar Bennion, Salt Lake City (Utah)
PA.—Annville Body Co., Annville
Ira D. Haines, Waynesburg
D. L. Phillips, Damascus (Ohio)
R.I.—Heil Equip. Co. of Boston, Brighton (Mass.)
S.C.—O. H. Stanard, Raleigh (N.C.)
Brooker Truck Equip. Co., Atlanta (Ga.)
S.D.—Fiasco Body and Equip. Co., Sioux Falls
TENN.—Tennessee Dist. Co., Donelson
TEX.—Ace Dist. Co., Houston
P & R Truck Equip. Co., El Paso
Dealers Truck Equip. Co., Inc., Shreveport (La.) and Baton Rouge (La.)
UTAH—Oscar Bennion, Salt Lake City
VA.—Bohr Spreader Service, Inc., Harrington (Del.)
Highway Motors, Inc., Harrisburg
W. VA.—Farmers' Truck & Imp. Co., Buckhannon
D. L. Phillips, Damascus (Ohio)
WIS.—Brooks Industrial Sales, Inc., Sun Prairie
Ostrom-Johnson Co., Rice Lake
WYO.—Oscar Bennion, Salt Lake City (Utah)

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NEW LEADER
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Beetles Being Imported for Control of Balsam Woolly Aphid

WASHINGTON—Beetles that prey on the balsam woolly aphid are being introduced into this country from West Germany in an attempt to control this forest-destroying insect, the U.S. Department of Agriculture announced Aug. 5.

Arrangements have been made to obtain approximately 20,000 of these beetles, Laricobius erichsonii, for use in a pilot control test in Maine and for establishment of a colony in North Carolina. The plan is a joint venture of USDA's Agricultural Research Service and Forest Service, with assistance from the British Commonwealth Institute of Biological Control.

Severe losses of fir trees due to balsam woolly aphid have been recorded in Washington, Oregon, Maine and North Carolina. The balsam woolly aphid causes damage by attaching itself to the trunk of trees and feeding on the sap. Massive infestations injure the trees so severely that they die in about two years.

The Canadian Department of Agriculture has imported, released and colonized the Laricobius beetle and other aphid predators with great success in New Brunswick, USDA said. It is cooperating in USDA's program by donating 200,000 tiny flies (Aphidoletes thompsoni), which also prey on the aphid. These are being released by the Forest Service in Oregon, Washington, Maine and North Carolina. Canada obtained these flies through the Commonwealth Institute of Biological Control from West Germany and Czechoslovakia.

Aerial spraying of insecticides will not reach the aphid, and ground spraying in heavily wooded areas is too costly to make control by insecticides workable, according to USDA.

The Laricobius beetles are being gathered mostly near Freiburg, Germany, under the direction of Dr. H. L. Parker, who is in charge of USDA's European entomology laboratory at Paris. Live beetles are being released by Forest Service entomologists on the most heavily infested trees. It is hoped that the beetles will multiply, so that colonies can be started in all areas infested with the aphid.

TWO IMPORTANT ANNOUNCEMENTS TO ARMOUR'S FRIENDS IN THE FERTILIZER INDUSTRY

1. Armour has acquired and is now operating the Nitrogen plant of the Mississippi River Chemical Company at Crystal City, Missouri.

2. To better reflect our broadened scope of service, Armour Fertilizer Works is now known as ARMOUR AGRICULTURAL CHEMICAL COMPANY.

Now, more than ever, Armour is in a position to serve farmers and home owners with a complete line of fertilizers:

- Armour's complete line of farm fertilizers in recommended analyses including the famous COMMERCIAL VERTAGREEN.
- Armour's complete line of materials: 45% Triple Superphosphate, Phosphate Rock, Ammonium Nitrate, Nitrogen Solutions and Anhydrous Ammonia.
- Armour's complete Specialty Vertagreen Plant Food line for the lawn and garden trade.

While our name has changed, our tradition of friendly service and quality products remains the same.

ARMOUR FERTILIZER WORKS

ARMOUR AGRICULTURAL CHEMICAL COMPANY
ATLANTA, GEORGIA

Cotton Diseases, Pests Discussed at Field Day

GREENVILLE, TEXAS — North Texas farmers learned these three facts among other information at an annual field day at the Department of Agriculture's cotton field station:

1. Cotton diseases—particularly bacterial blight (or angular leaf spot)—are taking a serious toll of the North Texas cotton crop. Estimates are that 20% of the crop is falling to diseases.

2. Boll weevils and worms are threatening the crop, following weather conditions that encourage their spread.

3. A cotton hybrid, featuring the good points of five existing varieties, may be available in two or three years.

Dow Porter, agronomist at the cotton field station, greeted several hundred farmers who came to see the experimental work and to hear discussions by experts on a multitude of subjects ranging from cotton and grain sorghum variety tests to fungicide in furrow treatments and soil and water conservation.

A special feature at this year's field day was a service to farmers in identifying plant diseases. They brought specimens of diseased cotton and grass plants and Dr. Harlan E. Smith of Texas A&M College identified the diseases which were attacking the plants.

Dr. L. S. Bird told farmers that cotton diseases are taking a toll of about one-fifth of the cotton crop. He pointed out that in-furrow fungicide treatment at planting time has not only cut down seedling diseases, generally allowing better stands of cotton, but also has resulted in healthier plants.

Tests have shown, he said, that even when there is little difference in stands between treated and untreated rows of cotton, the treated cotton has made money through healthier plants.

BILL

(Continued from page 1)

S. Hitchner, executive secretary of National Agricultural Chemicals Assn., said, "The inclusion under the Federal Insecticide Act of these categories of materials, which have assumed an important role in agriculture since the Act of 1947 was passed, will result in uniform regulation of agricultural chemicals, and will thereby eliminate the possibility of conflicting controls under other federal legislation."

William R. Lucas In New Atlas Post

CHICAGO—William R. Lucas has been named manager of the Atlas Powder Co. Chicago sales region, replacing Howard W. Dellard, who is entering the automotive supply business in Michigan.

Mr. Lucas has been with Atlas for 12 years. For five years he was assistant manager of the Wilmington sales office and, prior to his Chicago appointment, he was assistant manager of the New York sales office.

Farm Pests Theme Of Ohio Meeting

WOOSTER, OHIO — Control of a small but important pest of sweet and field corn will be a feature topic when the Ohio Pesticide Institute holds its annual summer meeting Aug. 11-12 at the Ohio Agricultural Experiment Station in Wooster.

Status of the corn leaf aphid will be discussed by Dr. Charles Triplehorn, entomologist at the experiment station. This insect congregates in huge colonies on corn leaves, causing the upper leaves to telescope. Often infested stalks are barren.

So far this season the aphid has been found on sorghum, a relative of corn, at Wooster and in the Fremont area. The aphids can easily move from sorghum to the cornfield, says Dr. Triplehorn. He is using systemic insecticides in an attempt to control the pest. It is too early yet to tell whether the aphid will be economically impoortant on corn this season.

The OPI summer field tour is designed to help chemical company manufacturers, salesmen and other industry workers keep up on new research on the control of insects, mites and diseases.

The program will begin Aug. 11 with a walking tour of the main campus where research on turf and turf problems is carried on. Pre-emergence and post-emergence materials for crabgrass control will be discussed. Following will be discussions on the effect of turf insecticides on earthworms and crabgrass, turf disease control, and effect of chlordane and mowing on earthworms.

Wagon tours of plots away from the center campus will be made, with the itinerary taking visitors to research on potato sprays, vegetable insects control, weed control in berries and grapes, grapevine and poison ivy control and shade tree borer control.

The second day will cover experiments on apple scab, mite control, soil treatments on vegetables, melon and potato sprays, effect of fungicides on apple set and fruit retention, control of rosy apple aphis, and chemical weed control in corn and soybeans.

A new fly species that is bothering Ohio dairy and beef cattle this season will be another new topic.

Fertilizer Affects Marketable Melons

FAYETTEVILLE, ARK. — Watermelon fertilizer tests indicated that fertilization had a major effect on number of marketable melons produced, with a minor effect upon fruit size, according to Dr. G. A. Bradley and J. W. Fleming, associate horticulturists with the University of Arkansas Agricultural Experiment Station. They based their conclusions from tests conducted on Norfolk fine sandy soil in Hempstead County during 1956, 1957 and 1958.

A shortage of any of the major fertilizer elements tended to reduce sugar content of melons. When yields were not affected by fertilizer differences, sugar content was not affected. "Thus, providing adequate fertilizer for good yields assures good quality," the researchers said.

Sixty pounds of nitrogen an acre as 30 lb. under the row and 30 lb. side-dressed was adequate for good yields, they reported. For highest yields, it was necessary to apply 60 lb. of phosphorus and 30 to 60 lb. of potassium an acre in addition to the nitrogen.

Analyzing leaves for evaluating plant nutrient requirements was also studied. A high rate of predictive accuracy was possible with this method. The scientists stressed, however, that further investigations are necessary before practical fertilizer recommendations can be made from foliar analysis.

SPECIAL MERCHANDISING SECTION

BETTER SELLING

MARKETING NEWS AND FEATURES

MASS DISPLAYS help sell products for the Cross-Town Farm & Garden Center, Inc., in La Grange, Ill. Here Joseph Gomberg (left) owner, sells a bag of fertilizer to one of his suburban customers.

Illinois Store Boosts Volume With Displays

By AL P. NELSON
Croplife Special Writer

Attractive outdoor displays attract the attention of almost 50% of the customers of the Cross-Town Farm & Garden Center, Inc., La Grange, Ill., according to Joseph Gomberg, owner.

"We are located on a well traveled highway in the greater Chicagoland area," states Mr. Gomberg, "and we get business from city, suburban and farm folks. They do a lot of driving in our area and they see our outdoor displays and come in and look around. The rest of our customers are regulars who know what we have. But we need the extra transient business which we can get from the highway traffic. Outdoor displays help us get it."

One of the big drawing cards at this thriving garden center is the large stock of garden and lawn fertilizer. Not only does he display a stock outdoors when the weather is right, but he has one section of the store which has about 200 bags on display, with more in the warehouse.

Along with his fertilizer bag display, Mr. Gomberg, in spring and fall, has lawn and garden seed supplies close at hand. Thus the employee who sells fertilizer can mention lawn seed or garden seed. Related sales come easy when suggested items are close at hand.

"The man who comes in for a bag of fertilizer, may buy some lawn seed and a rake, or a shovel, too," says Mr. Gomberg. "Or perhaps some shrubs. We are always counting on those extra sales, and we make many

(Turn to DISPLAYS, page 12)

Alabama Dealer Eliminates 'Slack Seasons' By Adding Numerous Sidelines, Services

By JESS BLAIR
Croplife Special Writer

E. B. Davis of Albertville, Ala., doesn't believe in letting his equipment or employees stay idle more than a few minutes at a time. When times grew slack, he got out and drummed up extra business for his Albertville Fertilizer Co.

"I have 10,000 sq. ft. of floor space here in the store building," he said, "so I decided to put that to some use."

One way was to put in a mechanical pepper grader and then work with processors of the area. In 1958 he graded and hauled over 2,000 truckloads of peppers. Cucumbers and other vegetables were also graded and hauled at a nice profit.

"We sell around 1,200 tons of fertilizer a year," he said, "but this is seasonal, so we try to round out the year with other work."

Another profit-maker is in hauling poultry for several of the large broiler growers in the immediate area. Mr. Davis also uses his large building to store paper boxes and other items used in the poultry industry.

He has made a study of the area's soils during his 12 years in business, the last five of which he has been manager and co-owner of the present firm.

"This is a heavy rainfall section," he said. "The average is 47 in. a year, and the soils here on Sand Mountain are deep and infertile. Plant food leaches out readily, so fertilizer is an absolute necessity. Our soil surveys show that 94% of the land needs fertilization, yet only about 50% of the farmers are using it."

Much of that 1,200 tons sold annually by the store has been the result of direct selling on the part of Mr. Davis. He talks to dozens of farmers at the store and on their farms, and points out how fertilizer can increase the crop profits.

"A few farmers are using the optimum amount of fertilizer," he explained. "On corn we usually recommend 200 lb. of mixed materials per acre, with at least 65 lb. of actual nitrogen. Our most popular kinds for cotton this year were 4-7-7 and 4-10-12. We also use quite a lot of extra nitrogen."

Mr. Davis has been influential in getting farmers to practice sidedressing, as much of the original application may leach out during a rainy spring.

He has one large rental spreader which he loans to farmers without charge. This is a tractor-type attachment and will cover 8 ft. at a time. It has been of great help in getting farmers to fertilize small grain and pasture land.

The sale of insecticides and herbicides has also been increasing. This is the home of the cotton boll weevil, and it takes a lot of poisoning to kill it. Mr. Davis' last year's sales of insecticides were nearly 300 tons.

"In a business of this type, a lot depends upon service," he pointed out. "Farmers need advice on what kinds of fertilizers and insecticides to use, and they want to know how to apply it. We spend much of our time outside the store during rush seasons."

Another service the store gives is night delivery. Mr. Davis says that often a farmer wants fertilizer early the next morning, or maybe the insects have hit his fields suddenly and he needs to start fighting them immediately.

"It's a little trouble perhaps," he said, "but we are always ready to deliver a load on 15 minutes notice. This means I must keep up with current needs and even anticipate them so there will be plenty of materials on hand. It might be too bad if the insects started working and some farmer had to wait two days for a load of insecticides."

Mr. Davis says that these extra hours and night hauls are not easy on the employees. He keeps three men besides himself. They do the loading and unloading, grading and hauling

(Turn to SLACK SEASON, page 14)

AT THE Albertville Fertilizer Co., Albertville, Ala., owner E. B. Davis personally waits on customers. He is shown here (right) loading a sack of fertilizer for a customer. By continually adding sidelines and extra service, there are no more slack seasons at the store.

WHAT'S NEW IN PRODUCTS • SERVICES • LITERATURE

To obtain more information about items mentioned in this department simply: (1) Clip out the entire coupon in the lower corner of this page. (2) Circle the numbers of the items of which you want more information. Fill in the name and address portions. (3) Fold the coupon double with the return address portion on the outside and fasten the edges with a staple, cellophane tape or glue. (4) Drop in the mail box.

No. 6943—Weed Killer Literature

Reasor-Hill Corp. has announced the availability of literature on the firm's granular weed killer, R-H Weed Rhap-20. The literature answers many questions, the company says, frequently asked about the product including what weeds it can kill, how to use and costs. A special portion on weeds in corn is contained. For copies of the literature, check No. 6943 on the coupon and mail.

No. 6944—Auto Leasing Study

A study for executives and financial officers, recently published by the Foundation for Management Research, analyzes the advantages and disadvantages of leasing auto fleets for company salesmen in cities and over-the-road. The 24-page study includes full charts on costs involved in different fleet plans, and is based on records covering 29,264 autos. The report is titled "Advantages and Disadvantages of Auto Fleet Leasing: A Comparison of Company Ownership, Salesman Ownership and Leasing." For copies, check No. 6944 on the coupon and mail.

No. 6945—Warehouse Layout Brochure

"Warehouse Layout: Narrow Aisles or Wide?" is the subject of an eight-page brochure published by the Automatic Transportation Co. This brochure is designed as a guide for the best type of warehouse for individual installations. Four pages of Automatic equipment in operation illustrate certain ways to solve the narrow-wide aisle problem. For copies of the brochure, check No. 6945 on the coupon and mail.

No. 6946—Liquid Grain Fumigant

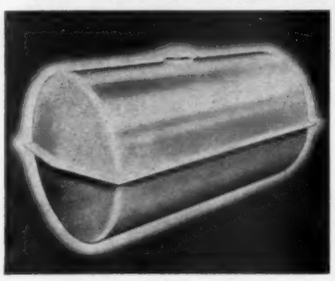
Frontier Chemical Co., division of Vulcan Materials Co., announced the development of a liquid grain fumigant under the trademark "Clorofume." The product, which gets its name from its chief ingredient, chloroform, is the result of four years of research and testing, the company said. Company literature listed the following advantages: High insect toxicity; greater grain penetrating power; savings of 20-30% per bushel of protected grain; safe handling, and no health hazard to human life when used with reasonable care. It is composed of three 100% active ingredients — chloroform, carbon bisulfide and ethylene dibromide. For further information about the product, check No. 6946 on the coupon and drop in the mailbox.

Also Available

The following items have appeared in previous issues of Croplife. They are reprinted to help keep dealers on the regional circulation plan informed of "What's New."

No. 6937—Molded Tank

A molded fiber glass tank for use in spraying or storing corrosive liquids has been announced by the Molded Fiber Glass Body Co. Designed in a cylindrical shape, the 200-



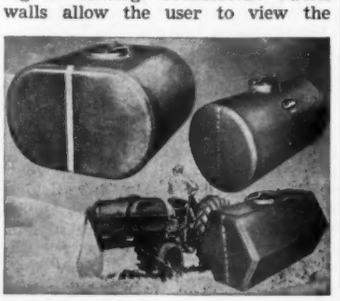
gal. tank is said to resist corrosion and weathering. It is recommended for use as a spray tank for insecticides and liquid fertilizers, or as a storage tank for chemicals. The tank is easy to clean, the company said, and is lightweight and impact resistant. It is 58 in. long with a 32 in. diameter. Available in a selection of colors, the tank is translucent so that the liquid is always visible. For more information check No. 6937 on the coupon and mail to this publication.

No. 6939—Display Units

Salesroom wall type merchandisers and gondolas have been announced by Shure Manufacturing Corp. Heavy-duty steel uprights and brackets, available in a number of sizes, are quickly adjustable to meet seasonal requirements, the company said. Wall displays can include lettered plastic valances and large perforated display panels which accommodate numerous combinations of displays. Planning and layout service is available from Shure Manufacturing Corp. to assist in the best utilization of available space. For details check No. 6939 on the coupon and mail.

No. 6935—Sprayer Tanks

Hanson Equipment Co. is offering a complete list of Fiberglass sprayer tanks ranging in size from 50 to 500 gal. and in a variety of shapes to suit individual needs. According to the company, the tanks are impervious to farm chemicals and rust, and will withstand sharp blows without breaking or denting. Translucent tank walls allow the user to view the



liquid level at all times. A sight gauge for reference is on either end. Complete information about the tanks can be obtained by checking No. 6935 on the coupon and mailing to this publication.

No. 6938—Fly Killer

Camp Chemical Co. announced a new Diazinon Fly Bait Killer. In powder form, the product attracts flies and kills them, the company said. It is especially designed for outdoor use. The company guarantees a 98% fly reduction each day of use. The package is ready for use merely by sprinkling on the ground or horizontal surfaces. The packages come 12 to the case. For information on this fly killer check No. 6938 on the coupon and mail to this publication.

No. 6942—Cotton Pest Control Leaflet

Recommended procedures for the control of cotton pests are outlined in a new leaflet published by Stauffer Chemical Co. The leaflet describes the formulations of Trithion available, dosage recommendations and application methods for the control of two spotted mite, cinnabar mite, tropical mite, cotton aphid, leafworm and leaf perforator. Copies are available without charge by checking No. 6942 on the coupon and mailing to this publication.

No. 6936—Sales Booklet

A brochure entitled "14 Tested Ways to Increase Sales and Cut Sales Cost," has been announced by Perrygraf Corp. Seventy-six pictures and 122 case histories are used to show "how to pep up the whole sales program by using slide-charts to put product facts at the fingertips," com-

14 TESTED WAYS TO BUILD SALES and CUT SALES COST
For the man who wants to guarantee his company's future and his own
PERRYGRAF CORPORATION

pany literature said. One slide-chart, distributed by Phillips Petroleum, enables one to see instantly what fertilizer is needed to replace elements removed from the soil by any one of 30 crops. Other slide-charts show egg cost calculations, feed requirements, how to check rate of fertilizer application, equipment and floor space necessary for different numbers of chickens, dosage for disease prevention and many other farm problems. The booklet and other materials are available free by checking No. 6936 on the coupon and mailing.

No. 6941—Feed, Fertilizer Body

A combination bulk feed and fertilizer body called the "Feedilizer," has been introduced by Simonsen Manufacturing Co. The 3,800 lb., all-steel body can give the dealer an extra fertilizer spreader during the rush season and it also can allow the dealer to expand his operation from the relatively short fertilizer spreading season to a full 12 months by adding bulk feed delivery, the company said. The Feedilizer is two complete bodies in one, with a total capacity of 261 cu. ft. The two compartments will hold 8½ tons of fertilizer or 5.2 tons of feed. This allows splitting a

Send me information on the items marked:

- ☐ No. 6935—Sprayer Tanks
- ☐ No. 6936—Sales Booklet
- ☐ No. 6937—Molded Tank
- ☐ No. 6938—Fly Killer
- ☐ No. 6939—Display Units
- ☐ No. 6940—Spray Nozzle, Control Valve
- ☐ No. 6941—Feed, Fertilizer Body
- ☐ No. 6942—Cotton Pest Control Leaflet
- ☐ No. 6943—Weed Killer
- ☐ No. 6944—Auto Leasing Study
- ☐ No. 6945—Warehouse Layout Brochure
- ☐ No. 6946—Liquid Grain Fumigant

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COMPANY .....

ADDRESS .....

CLIP OUT—FOLD OVER ON THIS LINE—FASTEN (STAPLE, TAPE, GLUE)—MAIL

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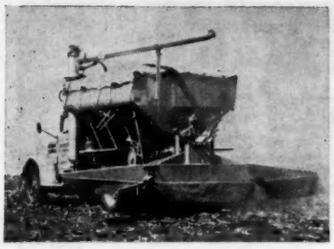


load into two separate orders of fertilizer at a time or separate feed orders. One compartment can be filled with fertilizer and the other with feed. The unit has all the features of a bulk feed body and a spreader. Its feed delivery auger will reach 21 ft. bins, will turn 360° and will deliver feed at the rate of 800 lb. a minute. The fertilizer spreader unit is designed to spread accurately down to 75 lb. an acre. Because its apron is run by a wheel drive, the truck can be operated in all gears or with a two-speed axle without affecting the rate of fertilizer spread. Stainless steel is used at all critical points to reduce corrosion. For more information, check No. 6941 on the coupon and mail.

No. 6940—Spray Nozzle, Control Valve

Spraying Systems Co. announces the DirectoJet, designed with a control valve that provides spray to either the left or right side of the

tractor, or to both sides at one time as well as off-and-on control. The entire sequence of operations is controlled by the operator without leaving the tractor seat, the company said. Because the spray can be shut off to either right or left, the spray can be set in the down-wind direction on windy days. This control feature is also of advantage when spraying near fence rows or buildings. The unit is easily mounted on a tractor, with the control handle positioned convenient to the operator, company literature explained. Five different capacity ranges are available. The DirectoJet may be removed and used as an auxiliary spray gun. Check No. 6940 for details.

FILE INCORPORATION ARTICLES

LITTLE ROCK, ARK. — Adkins-Phelps, Inc., West Memphis, Ark., has filed articles of incorporation with C. G. Hall, Arkansas secretary of state, to operate a seed, feed and farm supply business. The firm was authorized 4,000 shares of no par value stock. It listed $300 paid-in capital. Incorporators were David M. Phelps, North Little Rock; Howard Stebbins, Little Rock, and Gilbert D. Carpenter, also of North Little Rock. Mr. Phelps was named as agent.

WEED CONTROL PUBLICATION

MORGANTOWN, W. VA.—A new weed control circular, entitled "Weed Control—1959 Suggestions," is now available at county agricultural extension service offices throughout the state, A. H. Van Landingham, director of the West Virginia University Agricultural Experiment Station, announced. He added that the circular may also be obtained by writing to the experiment station at Morgantown.

OVER THE COUNTER

By Emmet J. Hoffman
Croplife Marketing Editor

A good example of changing farm store objectives to fit in with a new customer picture is Willhoite's Ranch House, 12830 Hempstead Road, Houston, Texas.

Fifteen years ago, when Charlie T. Willhoite, owner and manager, started his own business (after being employed in the feed industry for about 20 years), his store was located on the very fringe of Houston. His main lines were feed, seed, grinding and mixing equipment and hatchery feeds and equipment.

In the following years, Houston bulged and extended its city limits, and Mr. Willhoite found himself as a suburban dealer and a new class of customer.

Quick to recognize the need for change, Mr. Willhoite added new lines—garden and grass seeds, lawn mowers, shrubbery, fences, aluminum gates, hand sprayers, do-it-yourself supplies and scores of other products —needed by the suburban dweller.

Today, the store has a completely diversified inventory and proudly proclaims in its advertising, "The Old Country Store that Carries Everything."

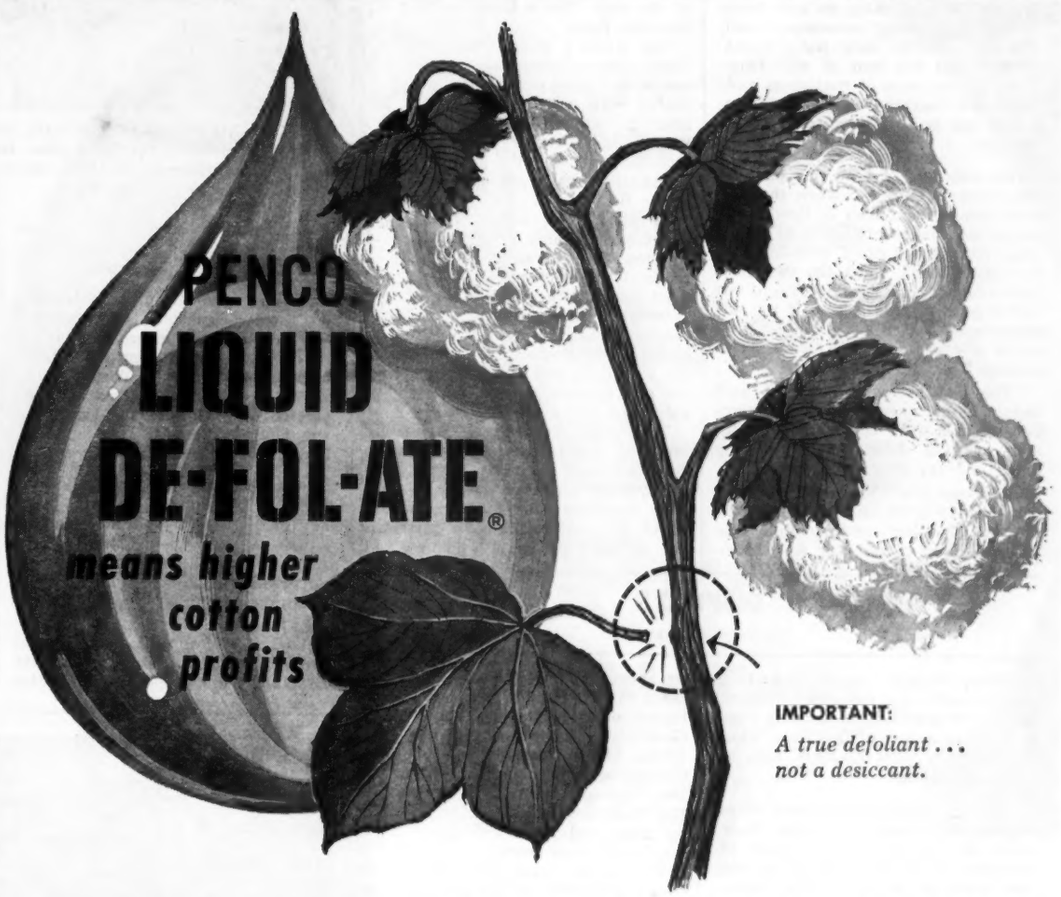
The "old country store" theme is deliberate. Mr. Willhoite definitely wants his business to remain as a friendly farm store or "ranch house." One of the mottos carried on the firm's letterheads is: "Big enough to serve you — small enough to know you!"

Other lines carried by the store include: Leather goods for horses, stock tanks (he sells many as swimming pools for youngsters), fertilizers, pesticides, veterinary supplies and bulk feeds.

Mr. Willhoite has a unique system for keeping store traffic up and people aware of his products. Although his merchandise is always neatly and conveniently displayed, he is a firm believer in frequently moving display shelves around and changing locations of items.

"It keeps people interested," he

(Turn to OVER THE COUNTER, page 14)



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A true defoliant . . .
not a desiccant.

PENCO LIQUID DE-FOL-ATE, a reliable and effective magnesium chlorate type defoliant, tends to open mature bolls at one time, thereby permitting the greatest amount of cotton to be harvested at *one* picking.

PENCO LIQUID DE-FOL-ATE *improves grade* — lessens trash and lint staining when picked by machine or hand.

It makes mechanical harvesting faster, more efficient, reduces boll rot and rotting of fiber and seed.

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Check These Advantages of PENCO LIQUID DE-FOL-ATE

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- Drops leaves at stem on stalk
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- Not highly corrosive to equipment or sprayers
- Quality-controlled product
- Means more profit for sprayers

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Louisiana Firm's Promotion Of New Products Raises Sales

Promotion of new ideas has been the main factor in the success of the Planters Seed Co. of 204-206 Texas St., Shreveport, La. W. G. Boogaerts, owner, and his son J. A. are always on the lookout for new products to push. When they decide some items will sell, they make an all-out effort to get customers interested.

With a wholesale and retail store in Shreveport, they are now selling many items to dealers in parts of Arkansas and Texas, and they take in the whole of northern Louisiana.

"Our main business is in farm chemicals and seed," said J. A. "We operate on the principle that it requires a big volume to make a profit nowadays. That's why we try to get the last possible sale on everything we handle."

Some methods used by the Boogaerts to push sales include their advertising. Using newspapers and radio regularly, they have found direct mail the best of all. They keep several lists of customers and potential buyers, and letters or cards are sent selectively to these people.

One example of how this paid off was several years ago when the firm took names from Dun & Bradstreet, paying particular attention to banks, large commercial firms, hospitals and Western Unions. Then the two Boogaerts and several employees sent out 40,000 postal cards asking if the addressees would like to buy 20-lb. sacks of pecans to give to their employees for Christmas.

"The response was terrific," said the younger Boogaerts. "As I remember, we sold three carloads of pecans, and many of those people still buy from us every year."

The store has also made good use of giveaway programs, to be followed up by pictures and testimonials. When Ladino clover was first introduced, Mr. Boogaerts bought all he could find, gave away many packets of seed, then followed this up by checking on results. Pictures and testimonials were printed in the newspapers and also on the direct mail circulars.

One time in introducing a new fly spray, the owners talked a dairyman into trying some. They then went out, swept up the dead flies in a huge pile and took a picture. This was printed in the newspaper ad, and immediately they were swamped for orders from other dairymen and farmers.

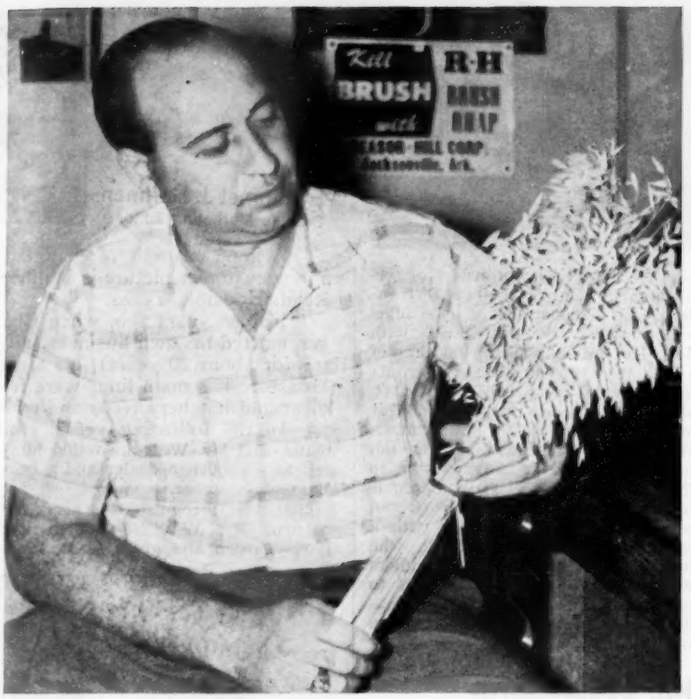
In servicing the large territory, the company uses two outside salesmen, in addition to the younger Boogaerts who serves as salesman and trouble shooter. The salesmen are paid a good salary and receive a bonus at the end of the year. This is based on how the business fares.

The elder Boogaerts personally trains each salesman. He wants someone with a good personality and preferably with a farm background. He also must know how to read well and be good in arithmetic. If he has these qualities, and is willing to work hard, he usually has a job as long as he wants it.

In the large and well-arranged store, eye-catching displays are used to stop the sidewalk and motorist trade. Window displays of field and garden seed are effective in season.

Within recent years the firm has begun stocking more farm and garden supplies. Some of the main items are fertilizers and insecticides, sprayers and dusters, rope, garden equipment and many other items.

"Our retail store trade is holding up well," said the younger Boogaerts, "but we are spending extra time pushing our wholesale outlets. We are now handling the Lowell Dusters which are sold to many of our dealers, as well as to nurserymen and hardware stores. By advertising them and having our salesmen carry samples, this line is moving well."



BY KEEPING records of field tests, the Planters Seed Co. of Shreveport, La., has been increasing fertilizer sales. Here J. A. Boogaerts, son of the owner and now a partner in the firm, shows several stalks of oats that were fertilized by company products.

Whenever a new product is taken, the two salesmen are carefully briefed on it and given samples to carry with them. Recently the firm began stocking rope wick oilers, which is a chemically treated rope stretched in the lot for cattle to rub against. Several dairymen ordered four of them the first time.

Altogether the company keeps about 10 employees, but this may vary. When seed cleaning time arrives, some extra help is needed. The firm has several trucks which make deliveries to customers and are used in hauling products from the manufacturers.

"That's one way to make money with fertilizer," said J. A. Boogaerts. "By doing our own hauling and often carrying it in bulk trucks right to the farm, we make a legitimate profit."

There is also good money in selling small-package fertilizer, insecticides and weed killers. At present the firm is selling about 3,000 cases annually through the retail dealers of the area.

Since there are several fertilizer plants in the area, farmers will often buy their fertilizer there unless it is brought to them. By stocking higher analysis materials than the local plants make, then showing farmers how the more concentrated forms will pay off, the Boogaerts have managed to hold their fertilizer trade.

"We try to change with the times," said the son, "and that means increasing volume. To do that you must be continually on the lookout for new items that farmers need."

DISPLAYS

(Continued from page 9)

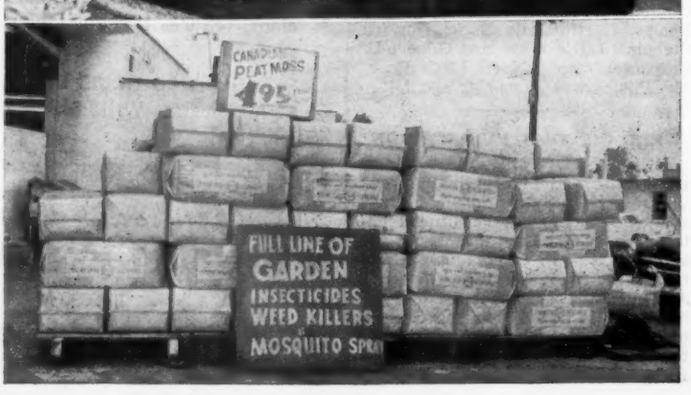
of them through suggestions. It is not unusual for a customer to spend $25 to $30 when all he actually came in for was a bag of fertilizer. Good salesmanship plus displays help do the extra selling."

This store sells a lot of peat moss which gardeners use to loosen their soils. Mr. Gomberg has a couple of carloads of moss displayed outside his store or in open door warehouse. This makes for a mass display which attracts the attention of many people. The peat moss displays are on wooden platforms which keep the merchandise off the ground. It is not unusual for this store to sell 25 to 50 bags of peat moss on a busy week end.

Mr. Gomberg carries signs near his peat moss displays, too, to inform customers that other merchandise is stocked at the store. Copy on one such sign reads, "Full line of garden insecticides, weed killers and mosquito sprays." Since there are many lakes within 75 miles of Chicago, with thousands of cottage residents, Mr. Gomberg sells a lot of mosquito spray. The cottage owners work in Chicago and drive back and forth to their cottages daily. Many who pass the Cross-Town Farm & Garden Center stop and buy supplies on their way to or from work.

The potted plant and shrub business has grown at this garden store the last few years. Mr. Gomberg now sells about 200% more potted shrubs than he did three years ago. He states that the potted shrub idea is taking hold of the public's fancy. Potted plants are easy to transport, to take care of and to transplant, he says, and that is why customers like them. He has several thousand potted shrubs on display outside his garden mart many months of the year. This mass display of potted plants really pulls in customers, he declares. He predicts there will be a further rise in potted plant volume for the dealer who pushes the line.

Mr. Gomberg advertises regularly in a suburban newspaper, and says he gets good results from such copy. He also sells fruits and vegetables such as tomatoes, apples, potatoes, etc., in season. This is a profitable sideline, he states. People who come to buy fruits and vegetables also buy garden and lawn items.



THIS TYPE of displaying has increased business for the Cross-Town Farm & Garden Center. The photo above shows the neatly stacked fertilizer display inside the store and the lower photo shows the peat moss display outside.

what's NEW?
Broyhill No. 8 Transfer Pump
A complete unit for transferring liquid fertilizers 100 gal. per minute. Self-cleaning, non-clogging. Centrifugal pump coupled to engine on carry-stand. Write for complete details, prices and delivery date, to:

the Broyhill COMPANY DAKOTA CITY, NEBRASKA

OSCAR & PAT

When the tall man came into the farm supply store and began browsing along the islands and the wall shelf stock, Tillie Mason was busy with her typing. Pat was on the phone and Oscar was figuring discounts.

Oscar, of course, had his back turned to the store interior, but Pat could see the customer. "Oh, Oscar," he said, holding his hand over the phone transmitter, "can you wait on that man? I'm talking to a fertilizer customer."

Pudgy, rotund Oscar frowned as he looked up. He did not like to wait on customers. He was an office man, one who deals with figures to make them come out in black instead of red ink on the ledgers. And that job was more awe inspiring, more important to Oscar—if he were forced to admit it—than any other job on earth, including preaching from a pulpit.

Slowly he got up and with a stormy look on his face walked importantly down the aisle to the tall man, carefully inspecting the shelves.

"I heard you have a fine stock of sunflower seeds," the man said. "I want 2 lb., 1 lb. for my parrot and 1 lb. for my wife and me."

Then Oscar knew. The customer was one of those organic foods minded customers, with whom he had had several arguments during the past year. But Pat McGillicuddy, the salesman of the firm, had said the partners should not argue with such customers too much, except when they attacked farm chemical products. Instead, Pat said, why not install a small organic supplies line, including rock phosphate, sunflower seeds, etc., to build traffic and then sell garden and lawn equipment to the organic minded customers, too. The move has worked out well.

"Hm," said the customer approvingly, as he inspected the shelves, Oscar meanwhile warily taking a prepacked two pound bag of sunflower seed from the shelf. "You have dehydrated manure. Stone ground corn meal. Stone ground whole wheat flour! Excellent! Excellent! I shall tell Hannah about this. We have just moved to town. We'll be in again. Do you eat sunflower seeds, too?

"Nein!" Oscar said impatiently. "I don't go for that schtuff. Ach, I like pork shanks and sauerkraut better."

"Oh my," said the tall man. "Pork shanks and sauerkraut. No food value at all. All the vitamins are boiled out of it. And vinegar is used. That's embalming fluid. You should never use vinegar. Eat sunflower seeds, my friend. 72 kernels a day provide full nutrition—the organic way."

Oscar's lips were tight. "Anythink else?" he snapped.

"Yes," said the man. "Have you got some cucurbita pepo?"

Oscar frowned. "Ach, what's that? A fertilizer?"

"Oh, no. It's pumpkin seeds. Scientists have discovered that peeled pumpkin seeds have 35% high quality protein, 50% unsaturated fats and also contain generous amounts of vitamins and minerals, especially vitamin A. Also iron and phosphorus."

"Ach," Oscar said sharply. "I am not interested."

"You should be," said the tall man acidly. "You should develop the organic business. You sell enough of chemical fertilizers which don't have any soil building qualities and are bad for—"

At this moment Pat stepped up. "Oscar," he said, "I'll take care of this customer, if you like."

"For once I can say thank you," Oscar said abruptly. "Pumpkin zeeds—ach!"

"Well," said the tall man. "Such impertinence. Such obstinacy, I never saw—"

"We have something which may interest you," Pat said. "Since you are a new customer interested in organic fertilizers and foods, I thought you might like to see our new, big lawn sweeper at $45."

He walked over to a lawn sweeper, gleaming with bright green and yellow paint.

"Lawn sweeper!" echoed the customer. "What for?"

Pat smiled. "There are a lot of oak trees in this town, and we get so many leaves in fall. People usually burn them. Quite a few organic-minded customers offer to sweep up oak leaves for people, then take the leaves home and make a garden compost pile of them. Oak leaves are excellent for compost heaps. Much better than any other kind of leaves. They have such a high mineral content."

The customer smiled. "Are you—are you an organic?"

Pat shook his head. "No," he said softly. "but we carry many supplies for organic minded customers. I have a solution which starts bacterial activity in a compost pile. And, of course, agricultural lime. And forks and shovels to turn the compost every few weeks."

"Excellent!" said the man. "I'll take a bottle of that activating agent. And a 25 lb. bag of agricultural lime. On that lawn sweeper—I'll bring Hannah in to look at it. I'm quite sure we'll buy it."

"We run a small ad each year in the fall," Pat said, "asking folks who

(Turn to OSCAR & PAT, page 14)

Why you'll sell more Grace Urea Prills This Fall

Its special properties help build a more profitable business for you

In the fall of the year, you'll find Grace Urea Prills offer you a real opportunity for *extra* profits.

That's because Grace Urea Prills is a *superior* nitrogen fertilizer *ideal* for fall application.

Your customers can use Grace Urea Prills profitably for:

√ Plow-down of crop residue. (Hastens decomposition of the fiber, so that it will not interfere with new plant growth in the spring.)

√ Broadcast for small grains.

√ Fall fertilization of pastures.

Recommend these uses to your customers. And be sure you supply them with Grace Urea Prills. This special free-flowing form of urea "weathers" wonderfully. Its anti-leaching quality is definitely superior to other solid nitrogen fertilizers. And it is *guaranteed 45% nitrogen.*

To build up the nitrogen content in *liquid* fertilizers, use either Agricultural Grade Grace Crystal Urea or Grace Urea Prills. Both dissolve readily, *stay* dissolved.

Grace Chemical Company

A DIVISION OF W. R. GRACE & CO.

MEMPHIS, TENN.

Who Makes the Money Out of Fertilizer?

By DR. R. L. BALSER
Chief Agronomist
Spencer Chemical Co.

It's sad but true — the favorite product of every fertilizer peddler is none too popular down on the farm. A shiny new tractor or a self-propelled combine with radio and power steering steals the farmer's eye and puts him in a buying mood. But did you ever see a farmer stand in your store and drool over a tank or bag of fertilizer?

There is little doubt about it—John Q. Farmer is a miser when it comes to fertilizer. Even though the agricultural economists put fertilizer at the top of the farmer's "best buy" list, still farmers are not buying nearly as much fertilizer as our land-grant colleges are recommending.

Why isn't the average farmer in a buying mood for fertilizer? Is the price of fertilizer too high? Farmers as a segment of the business world are out to make a profit. This is as it should be. They want to make money to deposit in their bank accounts, and they are not particularly concerned over the profit realization of their suppliers.

As a result, farmers have become shrewd buyers. They are matching wits with you. A little eavesdropping around the town square or in the poolroom on Saturday night can convince one of this. Always a popular topic is the good deal someone made on a purchase item during the week.

So a farmer walks into a fertilizer store and asks the price of 12-12-12. The dealer says it is $78 per ton. You can almost bet that the farmer will reply with a comment like this—"That's higher than it was last year" (even though it is actually $2 cheaper). Or—"Can't you do better on the price? Fertilizer is the biggest expense we have!"

But this should not set the stage for shedding of tears. You, the fertilizer dealer, have the best answer to the cries of "Too High" of anyone in the farm supply business. You should feel as guilty about the price of fertilizer as a stock broker who sold some stock (at a modest commission) that doubled in value in six months.

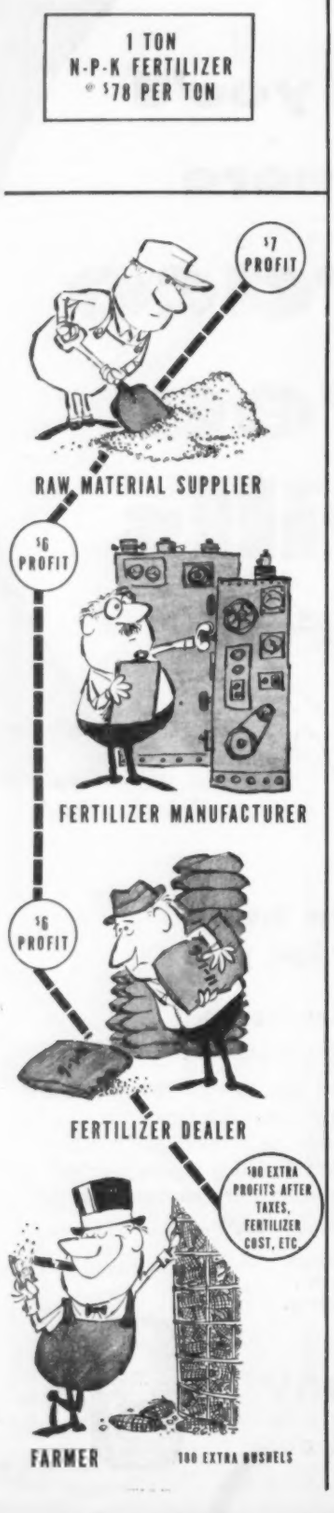
After you have given your usual rebuttal about the small markup for the various services you render, here is another point that may be worth mentioning: Say to your farmer friend, "Wait a minute, Joe. Who's making the money on fertilizer?" The figures at left illustrate the point. It is recognized that the dollar profit figures may be off the mark, but the general concept is there.

There are typically three groups of fertilizer industry people who have a chance to make a profit—the raw materials supplier, the fertilizer manufacturer and the fertilizer dealer. For the sake of example, we will figure that they all make $5 to $7 on a ton of fertilizer selling at $78 per ton to the farmer. This would be a sales profit. Actual net profit would be something less.

On the other side of the fence, look at the profit that the farmer makes on this same ton of fertilizer! Using just average yield response, this 2,000 pounds of fertilizer applied on ten acres of corn means 180 extra bushels. With corn selling at $1 per bushel, this would mean a total gross return to the farmer of $180. After subtracting the cost of the fertilizer, an allowance for extra taxes, etc., the farmer ends up with a net profit of about $80 on the ton!

So the farmer's profit on fertilizer makes industry profit look rather meager. The next time one of your customers is complaining about price, try out this "who makes the money" argument on him. Perhaps by the time you are done he will ask you to raise the price of your fertilizer $1 a ton, figuring he still has a good deal in making $79 profit.

The price of fertilizer is not too high. The major function of a fertilizer dealer is to render service. Set your margins high enough that you can do this job. And remember, when you sell another farmer on a complete fertilizer program, you are rendering him the best service of all—for no other farm supply will fatten his income like fertilizer!



SLACK SEASONS

(Continued from page 9)

of vegetables and farm chemicals, and any other jobs that may arise.

"I have three good men," the owner said, "and they know they are expected to stay busy. But I pay them well. They are all willing workers and take an interest in the business. To hold workers like this you must pay above the average scale. Poor, inefficient employees have lost more business for some dealers than any other one thing."

In addition to running his own business, Mr. Davis spends considerable time on civic enterprises. He is one of the bank directors, and takes a great interest in all agricultural and civic problems. Some of this has been time-consuming, but it has helped promote good will for the store and make him widely known in the area.

"One thing I've had to watch continually," he said, "is to handle only store items that pay a profit. I've stayed out of garden supplies, because it takes room to display them and extra help. Besides nearly everyone in town sells lawn mowers and related things. I've got a good business in field seeds, fertilizer and insecticides. The other things we add must be in the combination form of sales and services—such as our vegetable grading and trucks have been."

Many of these things are something that other dealers have overlooked or don't want. Yet the poultry storage and hauling are the very items which help make the business a thriving, year-around enterprise.

OSCAR & PAT

(Continued from page 13)

have oak leaves to phone us. Then we tell our organic customers about it."

"Oh, what a splendid service," smiled the man. "You—you really should be one of us, sir, and throw out all these chemical products you have, and—"

Pat smiled. "We're in the business of selling. We have supplies for customers with varying needs. Both chemical and organic fertilizers grow foods which apparently are making human beings live longer and better. Both serve a purpose, it seems."

"I won't argue with you today," said the customer. "Hannah probably has the lunch ready. Really, I wish you would give some consideration to the matter of stocking skinned pumpkin seeds."

"I will," Pat promised. "If I can buy them right, and if I can sell enough of them at a profit, they'll be on a shelf soon."

Oscar who at his not too far distant desk had heard most of this conversation, said loudly, "Phooey!"

OVER THE COUNTER

(Continued from page 11)

says. To help carry this idea through, one of Mr. Willhoite's favorite ads, used in the community's weekly newspaper, reads: "You wonder . . . if we have it. I wonder . . . where it is. Everybody wonders . . . how I find it."

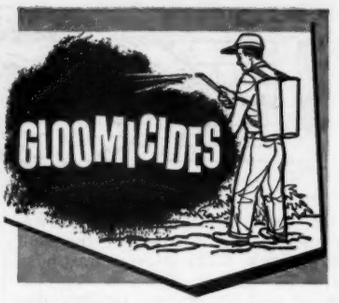
Another method of obtaining customers used regularly by the Texas store is the "special" sales event. Shoppers, sometimes numbering as many as 500, visit the store during these times.

Other than himself and his wife, who handles the nursery business, his only worker is a truck driver who makes deliveries for 50¢ each within a five-mile radius.

Occasionally the store will cooperate with a large manufacturer to sponsor a promotion. Recently, it joined with Olin Mathieson Chemical Corp. on a successful pesticide and pertilizer sales campaign.

GEORGIA CIRCULAR

ATHENS, GA.—The Georgia Agricultural Extension Service has issued a revision of its circular entitled "Cotton Insect Control."



The instructor was giving a lecture on parachute jumping and concluded: "And if it doesn't open up, men, that's what is known as jumping to a conclusion . . . "

★

Salesman: "I've been trying to see you for a week. When may I have an appointment?"

Executive: "Make a date with my secretary."

Salesman: "I did, and we had a swell time, but I still want to see you."

★

The lady was stepping from the shower and was about to reach for a towel when she caught sight of a window washer looking through the window at her. She was too stunned to move, just stood staring at the man.

"Whatcha lookin' at, lady," he finally asked. "Aincha never seen a window washer before?"

★

"Dad, I've got my first part in a play," said the young actor. "I play the part of a man who has been married for twenty years."

"Splendid," replied his father. "Maybe one of these days they'll give you a speaking part."

★

There's something feminine about a tree. It does a strip tease in the Fall, goes with bare limbs all Winter, gets a new outfit in the Spring and lives off the saps all summer.

★

"What's the matter with you?" the wife demanded. "Monday you liked beans. Tuesday you liked beans, Wednesday you liked beans; now Thursday, all of a sudden, you don't like beans."

★

Mother was busy in the kitchen when Junior asked, "Daddy wouldn't murder anybody, would he?"

"Gracious no, what made you ask that?"

"Well, I heard him down in the basement saying, 'Let's kill the other two, Joe'."

★

The little boy was playing in the yard when a neighbor's friendly collie dog came over and licked him on the face. The frightened youngster's screams brought the dog's owner out on the run.

"Did he bite you?" inquired the owner.

"No, but he tasted me," came the tearful reply.

★

"You told me how good you were when I engaged you three months ago," said the managing director to the new typist. "Now, tell me all over again; I'm getting discouraged."

★

A barber shop customer was complaining about the price of haircuts. "I'm just back from London," he said. "Over there I was able to get a good haircut for 65¢."

"Yeah," retorted the barber. "But look at the fare."

FARM SERVICE DATA

EXTENSION SERVICE REPORTS

Soybeans and Ladino clover both benefited from liming loessial soil in the first year of tests conducted by the University of Arkansas' Agricultural Experiment Station.

Limestone applied at rates of four and eight tons per acre six weeks before planting significantly increased soybean yield at Marianna on acid loessial terrace soil (Richland silt loam) with initial pH of 4.9, reports Dr. C. D. Foy, USDA soil scientist, and associates.

Fertilization was 250 lb. of 0-20-20 broadcast prior to planting and the same dosage placed in the row at planting time.

Four and eight tons of dolomitic and four tons of calcitic limestone produced 36, 35, and 37 bu. of soybeans an acre, respectively, while no-lime treatments yielded 31 bu. an acre.

For Ladino clover, dolomitic and calcitic limestone applied at rates of one to eight tons per acre six weeks before seeding in the fall of 1957 at Colt increased 1958 yields on loessial hill soil (Loring silt loam) with initial pH 5.1, Dr. Foy said.

Maximum yield was obtained with the two-ton liming rate, which averaged nearly 2,700 lb. of dry forage an acre from two cuttings compared with a little more than 1,900 lb. for non-limed plots. Fertilization was 1,000 lb. of 0-20-20 broadcast prior to planting.

The relationship between lime requirement and phosphate level of soils is receiving further study, remarked Dr. Foy.

★

N. C. Lee, manager of Lakeside Dairy Farm in Candler County, Ga., has shown what can be done when coastal Bermuda grass is combined with adequate amounts of lime and fertilizer.

Mr. Lee believes that coastal Bermuda, which was developed at the Coastal Plain Experiment Station in Tifton, Ga., several years ago, is a basic pasture grass for dairy cows. He has 32 head of dairy cows, with only 100 acres in open land. For summer grazing, he has 32 acres of coastal Bermuda, 12 of common Bermuda and three acres of Pensacola, plus three acres of Pensacola Bahia.

He has 11 acres of Starr millet for supplemental summer grazing and usually plants 26 acres of oats for temporary winter grazing. He has 13 acres of corn for cattle feed.

Soil testing is the yardstick used for measuring lime and fertilizer needs on this dairy farm. All pasture has been limed. Coastal Bermuda is fertilized with 700 lb. of 4-12-12 and 135 lb. of nitrogen per acre. Millet receives the same amount. Oats gets 500 lb. of 4-12-12 and 132 lb. of nitrogen top dressing. Mr. Lee says this type of management and fertilization makes it possible to have adequate grazing and hay for his herd.

★

The return in net profits due to application of fertilizer is as great on wheat as virtually any other crop grown in Nebraska, a University of Nebraska soils specialist reported.

Clinton A. Hoover, extension agronomist at the college of agriculture, cited research which indicates that fertilized wheat in southeast Nebraska will, on the average, return about $2.75 for each dollar spent for fertilizer.

"The 1959 wheat crop has shown an exceptionally good response to commercial fertilizer," Mr. Hoover said, "and the 1960 crop season should be as favorable for the use of fertilizer on wheat as the present season."

Farmers can increase their crop production efficiency through the use of soil tests and fertilizers—even though acreage devoted to crops may be reduced at the same time—and still make money, Mr. Hoover asserted.

"Now is an ideal time to get soil samples tested on fields that will be planted to wheat this fall," he concluded.

★

Fertilizer applied in one year can result in additional profits at the end of the following year's crop. In fact, increased yields from carryover fertilizer can often pay for the original cost of the fertilizer, said W. F. Bennett, extension soil chemist, Texas A&M College system extension service.

Two demonstrations conducted by Bill Taylor, Hockley County agent, in 1958 demonstrated these points, stated Mr. Bennett. In both cases, the fertilizer was applied prior to planting in 1957 and yields were taken in both 1957 and 1958.

On the Wayland Fred farm near Pettit, only two out of the six treatments applied failed to return enough of an increase to pay for the fertilizer costs, said the chemist. One rate, a 70-70-0, returned a profit of $21.80 in 1958 over and above the 1957 fertilizer costs. There were no yield increases from these fertilizer applications in 1957 due to a poor season.

In the demonstration conducted on the Morgan Rust farm near Levelland, all fertilizer treatments in the demonstration gave a highly profitable increase in yield in 1957. Looking at 1958 yields, all treatments gave sufficient yield increases to more than pay for the cost of the fertilizer, the chemist said. One treatment in the demonstration, a 30-60-30, gave a profit above 1957 fertilizer costs of $29.35. Considering the increased profits for both 1957 and 1958, the 30-60-30 treatment returned $121.75 for an investment of $12.30.

These two demonstrations emphasized the value of carryover fertilizer. If good results are not obtained in one year such as in 1957, the carryover effect will still help to pay for the fertilizer, Mr. Bennett added.

★

South Carolina and USDA entomologists at the Pee Dee branch experiment station, Florence, have developed a remedy to control the tobacco budworm. It consists of applying a small amount of an insecticide in the buds of the tobacco plants. The remedy has been widely used by tobacco farmers in South Carolina and in other states in recent years with excellent results.

According to Norman Allen and his associates at the Pee Dee station, a dust mixture containing either 10% of DDT or 2% of endrin will not only kill the tobacco budworm but if applied when the first eggs and larvae appear will also protect the plants from budworm damage for several days. The best plant protection will be obtained if the insecticide is applied before the worms begin to damage the plants. Two or three applications should give good control until the plants are topped.

The worms usually appear three to four weeks after the plants have been placed in the field. Most damage occurs in the bud of the plant, and for this reason a control remedy should be directed into the bud. Dusts give better control than sprays because the ordinary spray machines do not force the spray solution into the buds.

The entomologists say the dust mixture may be applied with a puff-type duster. Poor control will likely result if tractor or rotary hand-dusters are used to apply the material. Regardless of what is used to make the treatment, special care should be taken to make a light and even application. Ordinarily 4 to 6 lb. per acre is sufficient when a puff-type duster is used. In general, there won't be much damage to the plants if the insecticide is applied when the plants are dry.

The tobacco budworm is one of the most important insect pests of tobacco in South Carolina. It is present every year, but it caused more damage than any other tobacco insect in 1958. Unless it is controlled, it may cause severe damage to the crop this year.

★

"We've got to get low cost crop production to keep farms profitable," says Dr. George E. Smith, University of Missouri soil scientist.

Farmers can get those low costs, says Dr. Smith, by using the proper amounts and kinds of fertilizer to produce higher yields per acre. As yields per acre go up, costs of production per bushel go down.

"These higher yields, in turn, can mean that fewer acres will be needed for growing corn and small grains," says Dr. Smith.

He reports that fertilizer use is increasing on Midwest farms and will continue to increase in the years ahead.

Dr. Smith says that improvements in fertilizer distribution machinery are needed to keep pace with changes in agriculture and particularly in the use of fertilizer.

"We're going to see changes in this machinery in the future to cut down on the amount of labor required to load fertilizer attachments on corn planters," he says. "A lot of our farmers who are good businessmen, would be willing to pay a little more for greater convenience and ease of handling plant food.

"Labor is getting to be an increasingly important item and the number of people on farms is considerably less than it was a few years ago. So we're going to have to develop some way of cutting down on the labor and handling of fertilizer."

★

The alfalfa weevil has been the number one insect problem for growers of Virginia's number one forage crop this season.

Dr. J. O. Rowell, entomologist at Virginia Polytechnic Institute, says that although controls of the weevil have been spotty in some cases, generally farmers have done a pretty good job where they followed one of the three recommended control measures.

Next year, Dr. Rowell says, applications of heptachlor - fertilizer mixtures will vie for first place with granulated heptachlor on the list of recommendations. The other recommended treatment is the heptachlor spray.

Results this season with bulk application of the fertilizer-heptachlor mixtures were excellent where there was proper coverage. There was some difficulty, however, where the minimum amount (500 lb. of the medium analysis) to the acre was applied with bulk delivery trucks. Bulk distribution of the mixtures was approved after recommendations were published, and caution about application was therefore omitted. The entomologist explains that bulk delivery trucks are not easily calibrated to deliver small amounts of fertilizer to the acre. Where only the minimum of 500 lb. was applied, the distribution was uneven and control was poor. On the other hand, where 600 to 700 lb. of the fertilizer-heptachlor mixtures were applied, control was very satisfactory.

Dr. Rowell reports that there has been a rather heavy spittlebug infestation in alfalfa this year. Where the granulated heptachlor or fertilizer-mixtures were applied for weevil control, the spittlebug was controlled also. This should encourage the use of these two treatments on alfalfa next season, Dr. Rowell believes.

Demonstrations on the use of granulated heptachlor were conducted throughout Virginia this year, and in every case where the alfalfa weevil was a problem control was very satisfactory. Applications in the demonstrations were made at the rate of 50 lb. per acre of the 2½% granulated heptachlor.

Dr. Rowell said that between Jan. 1 and March 15 (the recommended time for application) around 20,000 tons of fertilizer containing heptachlor were applied to alfalfa in Virginia. The mixture is not quite as effective as the granulated heptachlor, but the time and money saved and the convenience of application are well worth the difference. Dr. Rowell says that next year, a farmer who knows the weevil is in the area, and who plans to fertilizer alfalfa in the winter or early spring should go ahead and include heptachlor.

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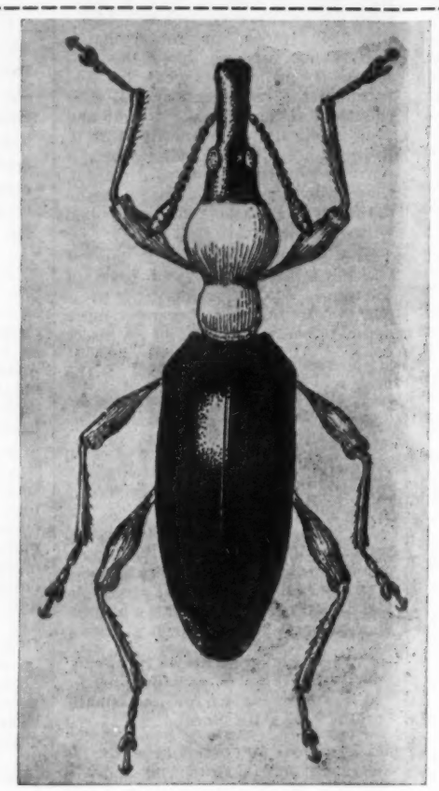
BUG OF THE WEEK

Mr. Dealer—Cut out this page for your bulletin board



Sweet Potato Weevil

How to Identify

The adult insect (shown here) is about a quarter-inch in length, and is distinguished by its slender, shiny body and easily-noted snout. The bug's colors are also characteristic. The head is bluish-black, while the legs and middle portion of the insect are red in color. In the grub stage, the pest is white and about a third of an inch in length. It is legless in this stage, and usually fat appearing.

Habits of the Weevil

The sweetpotato weevil lays its eggs in small holes that it makes in the stems of sweet potato plants or directly in the potatoes themselves. In about a week, the eggs hatch into small, white grubs which feed and grow in the vines or in the potatoes. In two or three weeks, the grub reaches its full growth. While it is still in the stem or potato, the grub changes into the pupa, or resting stage in which it remains for a week or more before the weevil emerges by eating its way out.

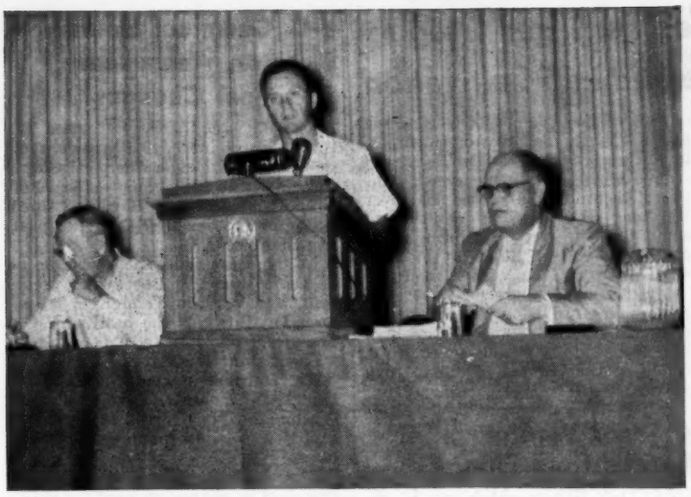
Damage Done by Insect

Sweetpotato weevils do tremendous damage to plants, often rendering the potato unfit for any kind of feed, human or animal. Grubs do damage by feeding within the stems, roots and potatoes. Small holes in groups on the surface of the potatoes are either feeding marks or holes made by females in laying their eggs. Roots and tubers of sweet potato plants may be honeycombed by numerous grubs which leave tunnels filled with excrement. When weevily potatoes are cut open, the grub-made tunnels can be seen, often with grubs or pupae still in them. Sweetpotatoes thus infested have a bitter taste and are totally unfit for food.

Control of Sweetpotato Weevil

Cultural practices rate high in control of this pest, but a number of pesticidal products are available to do the job. (Experiment Stations and county agents in the half-dozen or more southern states in which the weevil occurs, can provide accurate information on materials to use, amounts, and methods of application.) If infestation is light, rotation of crops will deprive the pest of its food supply for a year which is said to eradicate it. Sweetpotatoes should not be grown anywhere within an area extending from ½ mile to 1 mile from any known infestation. Destruction of plant residues on an infested field is another recommended practice. Federal and state quarantines prohibit the transfer of sweetpotatoes from an infested area.

Illustration of Sweet Potato Weevil furnished Croplife through courtesy of the U.S. Department of Agriculture.



HENRY DESALVO (speaking), Arkansas fertilizer control official, tells the Southwest Fertilizer Conference that Arkansas tonnage is up 23% over last year. At left is Stanley Hackett, Dixie Fertilizer Co., and at right is Dr. J. F. Fudge, Texas A&M.

CONFERENCE

(Continued from page 1)

link" in achieving potential fertilizer consumption.

On Friday morning, fertilizer control officials from Arkansas, Louisiana, Oklahoma and Texas reported on consumption trends and changes in recommended and approved grades and materials for the coming year. Arkansas and Oklahoma control officials reported total tonnage increases of approximately 22 to 24% for 1958-59 over the previous year. Louisiana consumption for a nine-month period ending May 31, 1959 was up 14% over last year. In Texas, consumption of mixed goods, through June, was about 4% over the previous year, but abnormally low material sales in June brought total tonnage down about 1% below the same period last year.

Regarding minimum grades approved for the coming year, both Arkansas and Louisiana removed the 5-10-5 from their lists and adopted the 6-12-6 minimum for that ratio as in Texas and Oklahoma. Louisiana also dropped the 1-3-1 ratio.

Conferees enjoyed a full schedule of recreational activities including evening receptions and the annual dinner-dance, golf and shuffleboard tournaments, bathing, boating, deep sea fishing, and ladies' socials. Next year's conference was set for the Galvez Hotel on July 27-30.

Texas Gulf Sulphur Makes Semi-Annual Report

NEW YORK — According to the semi-annual report of Texas Gulf Sulphur Co., net income for the first six months of 1959 was $6,969,975 or 69.6¢ per share, compared with $6,932,821 or 69.2¢ per share for the first half of 1958. Gross revenue from sales was $33,024,848 for the first half of 1959 as against $26,290,349 for the same period a year ago.

Net income for the second quarter of 1959 was $3,719,419 or 37¢ per share on the 10,020,000 shares in the hands of stockholders. This compares with earnings of $3,460,334 or 35¢ per share for the second quarter of 1958.

Central Plans Dedication Of Phosphate Plant

GEORGETOWN, IDAHO—Formal dedication of Central Fertilizers Co. new $16 million phosphate plant will be held Sept. 10, according to Robert Johnson, personnel director.

Dedicatory services will begin at 11 a.m. A special train will arrive from Denver with directors and stockholders from the East as part of the day-long program of activities.

A chuck wagon breakfast and a tour of the plant and mine also are on the agenda. Some 300 guests are expected to attend the dedication. An evening program will be held in nearby Montpelier, Idaho, beginning at 5:30 p.m. Avery L. Stutts, plant general manager, has been in Chicago to arrange details of the dedication with company officials.

COORDINATE

(Continued from page 1)

thorization of $2.5 million. For that reason he recommended the come-and-get-it-as-we-need-it, no-ceiling amendment.

Mr. Parker implied that the amount for a proper research program lay well over the $280,000 mark but under the proposed $2.5 million level.

In agreement with USDI but with a variation of its own was the National Wildlife Federation's statement. Stewart M. Brandbord, the federation's assistant conservation director, recommended "the program should be permitted to expand on a logical basis in accordance with needs, but an adequate amount of money, such as the $2,565,000 proposed, should be specified." Mr. Brandbord expressed hope that adequate research will uncover and develop selective pesticides as well as systemics.

(HR 5813 would provide only for testing existing or future pesticide chemicals; it does not provide for the actual development of pesticides themselves.)

Congressman John Dingle of Michigan, sitting in as chairman for the subcommittee on Fisheries and Wildlife Conservation, said he was dismayed at the way USDA allegedly was handling its spray programs. Rep. Dingle implied that the Agricultural Research Service carried on its mass pest control programs without proper regard for humans and for wildlife populations.

The Citizens Committee on Natural Resources and the Wilderness Society both supported HR 5813 as it stands.

Differences of opinion in the wording of HR 5813 may be enough to sink chances of its passage this year. With Congress in the legislative home stretch, seemingly and relatively minor issues such as this will probably be carried over to the session starting in January.

NAC Statement on Funds for Pesticide-Wildlife Research

On behalf of the National Agricultural Chemicals Assn., we would appreciate having the members of your committee give careful consideration to this statement, and also having it made a part of the record of the hearings in reference to S. 1575.

Our association represents manufacturers who produce 90% of the basic pesticide chemicals which are produced in the U.S. and formulators who produce 85% of the formulated basic materials in use.

A year ago our industry supported legislation authorizing an appropriation of $280,000.00 a year to the Fish and Wildlife Service for research to study the effects of pesticides on wildlife. At that time, however, we suggested that if authorized, the study should be conducted in cooperation with the U.S. Department of Agriculture and the U.S. Department of Health, Education and Welfare. These government agencies have had a long experience in conducting research on pesticides, their effect on agriculture, public health, and wildlife, and other biological factors. The marketing and use of pesticide chemicals are also controlled by these agencies under authority of Congress.

We continue to support sound research programs both by government agencies and by private industry. The progress in the development and use of pesticide chemicals has been primarily due to such research programs.

Our industry is spending over $20,000,000.00 a year in an effort to develop better and safer pesticide chemicals. In this program the industry is cooperating with the U.S. Department of Agriculture, state land-grant colleges, the U.S. Public Health Service and with the U.S. Fish and Wildlife Service.

We request that your committee, in considering the request for expanded research, provide that any programs which may be developed be coordinated with other research programs pertaining to pesticide chemicals now being carried on by the U.S. Department of Agriculture, the U.S. Department of Health, Education and Welfare (through both the Public Health Service and the Food and Drug Administration), with those land-grant colleges who are conducting research at a state level, and with private industry and private research interests who are also working on these problems.

In the development of any research programs the vital roles which these materials play in protecting the nation's health and making available an adequate food supply should be carefully weighed. Economic factors should be a part of any research studies.

We would suggest that an Advisory Committee from the interested groups be created to coordinate their research programs for the best interests of agriculture, public health and wildlife.

In a press release issued by the Fish and Wildlife Service, that agency indicated certain types of research which might be undertaken. In some of these fields of research a tremendous amount of information is already available. For example, toxicological data which must be developed by a manufacturer before registration and sale is available, and any duplication should be minimized. Already we know much about the acute and chronic toxicity of the 280 chemicals on the market.

While supporting sound research we would like to point out that a project cannot be extended from $280,000.00 a year to more than $2,500,000.00 a year in such a short period of time without waste. Facilities and trained personnel are not available to permit such rapid expansion, and this fact should be considered by the committee in authorizing increased appropriations.

Members of Congress are well aware of the propaganda and pressure now being created by some of the extreme nature groups. This type of "scare" publicity is seriously undermining confidence in the research programs being carried out by the U.S. Department of Agriculture, the U.S. Public Health Service, other government agencies and the industry.

Due to conflicting and unsubstantiated statements which have created doubt in the minds of the public, the Division of Biology and Agriculture and the Division of Chemistry and Chemical Technology of the National Academy of Sciences now have under consideration the appointment of an impartial scientific committee to review the current status of the relation of pesticides to wildlife and to issue a statement on their findings. We are confident such an impartial study will have full support of industry and government agencies.

In conclusion, we would like to suggest to the committee that the U.S. Department of Agriculture and the U.S. Department of Health, Education and Welfare be given an opportunity to present information on research programs now being conducted in this field and to express their views on future programs to the extent that any programs which will be adopted will be of a constructive and cooperative nature and will be conducted in the public interest.

Alabama Fertilizer Meeting Plans Set

AUBURN, ALA. — The 1959 Alabama Fertilizer Conference will be held Aug. 18-19 at the North Alabama Horticulture Substation at Cullman, Ala., the Tennessee Valley Substation at Belle Mina, Ala., the TVA facilities at Wilson Dam, Ala., and the Upper Coastal Plain Substation at Winfield, Ala.

Included in the program plans for Aug. 18 are: "Changes in Horticultural Production in the Cullman Area," by T. S. Morrow, superintendent, North Alabama Horticulture Substation; "The Fate of Nitrogen Applied to the Soil," by C. E. Scarsbrook, soil chemist; "Fertilizer Needs as Related to Other Production Practices," by J. T. Cope, Jr., associate agronomist, and "Changes in Agriculture in the Tennessee Valley," by John K. Boseck, superintendent, Tennessee Valley Substation.

The dinner speaker for Aug. 18 is to be R. D. Rouse, soil chemist, who will discuss "Basis of Soil Test Recommendations."

The Aug. 19 program includes: "History of TVA's Fertilizer Research and Development Work," by J. H. Walthall, director, division of chemical development; "Ammoniation and Granulation of Mixed Fertilizer," by T. P. Hignett, chief, applied research branch; "Liquid and Suspension Fertilizers, Present Status and Outlook," by A. V. Slack, research supervisor, applied research branch, and "Changes in the Upper Coastal Plain," by W. W. Cotney, superintendent, Upper Coastal Plain Substation.

Tours of the various substations and facilities are planned.

FORAGE PEST

(Continued from page 1)

and lawns, and will attack winter grains. By feeding on roots, the larvae, like those of the Japanese beetle, cause unsightly, barren spots that expose soil to rapid erosion. Heavy infestations have caused crop failures.

Research is under way to improve soil and plant treatments used to comply with quarantine restrictions, and to improve detection traps. Black-light traps, a development of research, are proving to be valuable aids in chafer surveys. These traps uncovered the recent West Virginia infestation and have been useful in delimiting the New York infestation.

Philip M. Olson E. M. O'Leary

Velsicol Announces Three Staff Additions

CHICAGO — Velsicol Chemical Corp. has announced the addition of two new marketing specialists and a Canadian representative to its staff.

R. P. Suckling

Edward Michael O'Leary and Philip M. Olson are the new men on the marketing staff and R. Paul Suckling is the Canadian representative.

Mr. O'Leary is a graduate of the University of Minnesota. Prior to joining Velsicol, he represented the Multi-Clean Co. He was responsible for dealer salesman training and field service.

Mr. Olson, who graduated from New York University, previously was a sales and customer service representative for Southwest Potash Corp.

Mr. Suckling, a native of London, England, was formerly assistant to the advertising and sales promotion manager of McColl Frontenac Oil Co., Ltd., in Montreal.

Hooker Names Plant Managers, Superintendent

NIAGARA FALLS, N.Y.—John W. Bunch has been appointed works manager of the Dallas, Texas, plant of the phosphorus division of Hooker Chemical Corp., announced Robert E. Noble, assistant general manager of the division. Mr. Bunch has been office manager of the Dallas plant since 1956. He succeeds H. William Kopp, Jr.

Mr. Kopp has been appointed works manager and Theodore T. Garrett named technical superintendent at the Columbia, Tenn., plant of the phosphorus division.

Mr. Noble said that the title of technical superintendent is a new one at the Columbia plant and the position was created because Hooker anticipates making substantial improvements in existing plant facilities there. In his new position, Mr. Garrett will be responsible for quality control and process improvement, and will also coordinate technical activities with division and corporate engineering offices.

Reports 6-Month Earnings

SAINT LOUIS, MICH.—For the six months ended June 30, 1959, Michigan Chemical Corp. reported net profit after taxes of $346,445 or $0.46 a share. Of this amount, $61,499 was non-recurring profit from the sale of capital assets. In the comparable period in 1958, net profit was $217,853 or $0.29 a share.

Net sales for the first half of 1959 were $4,594,437, and $5,421,051 in the same period of 1958. The 15% decrease in sales resulted principally from the company's withdrawing, on Jan. 1, 1959, from the DDT business. At the same time, excluding non-recurring profit, operating net after taxes increased 31%.

RE-OPEN STORE

PRINEVILLE, ORE. — The Prineville Feed store re-opened here last week following a serious fire and is now operating as a branch of the Deschutes Farmers Co-op of Redmond.

Texas County Increases Fertilizer Usage By Putting More Rangeland into Cultivation

SEMINOLE, TEXAS — Fertilizer usage in Gaines County has increased tremendously in the last three years, according to local dealers. One reason has been because of rangeland being put into cultivation. The other is that farmers are using more fertilizer on cotton crops every year.

R. O. Parker, owner of an irrigation company in Seminole, says his firm has drilled 100 irrigation wells the last 12 months, and says other drillers have accounted for another 300. The total for the county is now estimated at 1,200.

An implement and fertilizer dealer, J. C. Rice, says the average cotton farmer is now applying about 200 lb. of mixed fertilizer per acre, and may use 100 lb. in the form of sidedressing.

"We're also selling potash this year," he said. "Our store sold over 250 tons of 10-20-5, in addition to some that we put out through our custom spreaders. Most of this was applied during the winter months."

Mr. Rice says there has also been some interest in using trace elements, particularly iron. Some of the high lime soils are creating a chlorotic condition that causes plants to turn yellow.

$25 Million Combined Business Predicted

BILOXI, MISS.—Officials of Mississippi Chemical, Yazoo City, and Coast Chemical Corp., Pascagoula, Miss., forecast the two operations will top $25 million in business in the fiscal year which began July 1

Owen Cooper, executive vice president of the corporation, and R. H. Fisackerly, general sales manager, headed a group of some 15 sales representatives which met at the Edgewater Gulf Hotel for a two-day sales meeting.

The company, which manufactures anhydrous ammonia, ammonium nitrate and water soluble ammonium phosphate, is presently in an expansion program at the Yazoo City plant which will add the manufacture of urea and N-Sol-32, two new products which will be available in September.

The group visited the Coast Chemical plant at Pascagoula, which has been in production one year. Officials said Coast Chemical did $7 million in business in the year just closed and Mississippi Chemical did $15 million.

Wisconsin Dealer, Wife Die in Trailer Mishap

MADISON, WIS.—Donald W. Aitken, Sr., 51, and his wife, Evelyn, 45, died of carbon monoxide poisoning July 24 in their house trailer while vacationing in Colorado.

Mr. Aitken was manager of the Midwestern Phosphate Co. here and also operated the Kickapoo Fertilizer Co., which has plants at Stevens Point and Hillsboro, Wis.

Delaware Chemical Workers Increased

WILMINGTON, DEL. — An increase of 200 workers in chemical manufacturing in Delaware was reported during June. The employment level was estimated at 26,100, compared to 25,900 in May, according to the monthly report of the Delaware Unemployment Compensation Commission.

The employment figure for June a year ago was 26,800. Average weekly earnings of the production worker increased between May and June from $124.23 to $128.21.

A gain was noted in average hourly earnings, $3.06 in June and $3.03 in May. The work week was at a higher level, 41.9 hours in June and 41.0 hours in May.

Stauffer Promotion

NEW YORK—Wilbur F. July has been placed in charge of advertising and promotion, agricultural chemicals division, Stauffer Chemical Co. Mr. July joined Stauffer in 1955 and prior to his recent promotion was assistant to the agricultural chemical sales manager, northeast area.

A graduate of Hofstra College, Mr. July lives in Wantagh, N.Y.

41-Year Veteran Retires from Firm

LITTLE ROCK, ARK. — C. M. Smith, Sr., will retire Aug. 31 as manager of the Little Rock mill of the Southern Cotton Oil Co., after 41 years of service, announced F. L. Morgan, vice president, Southern Cotton Oil Division of Wesson Oil & Snowdrift, Inc.

A native of Barling, Ark., Mr. Smith joined the company in 1918 as a clerk in the Little Rock office. He later served as bookkeeper, cashier and manager of the Newport mill before returning to Little Rock as manager.

The tonnage of both cottonseed and fertilizers tripled and the mill became one of the largest industrial plants in the South under Mr. Smith's direction.

John R. Laughlin, manager of the firm's facilities at Decatur, Ala., will succeed Mr. Smith, who has been retained by the company in an advisory capacity.

Tulane Research Team Seeks Fire Ant Answers

NEW ORLEANS, LA. — A three man team which has been making a chemical study of the fire ant, has discovered venom of the ant contains an agent capable of breaking down red blood cells.

The discovery is expected to lead to the development of a vaccine to counteract the allergic reaction which affects some people. Fire ant stings have been known to be fatal in some cases, and to require medical treatment in many instances.

The Tulane team working on the problem includes Dr. Vincent J. Derbes, professor medicine; Dr. Rodney C. Jung, associate professor of tropical medicine; and Dr. George A. Adrouny, assistant professor of biochemistry.

The scientists point out that the fire ant is the only insect common in the U.S. that produces a breakdown of red cells. However, they also point out that while the sting actually kills living tissue it is not likely that enough of the ant venom is injected into a person to produce a breakdown of red blood cells throughout the body.

Dr. Adrouny said the fire-ant vaccine appears to be far off. Future study is aimed at finding out the exact chemical structure of various constituents of the venom. "We can't work on the vaccine until we know more about the venom," Dr. Adrouny said.

SHORT COURSE

TIFTON, GA. — Detailed information on fertilization of small grain and winter legumes will be given at the "Small Grain, Winter Grazing, and Winter Legumes" short course which will be held Aug. 18 at Abraham Baldwin Agricultural College in Tifton, according to T. M. Cordell, dean. The short course will be the second in a series of courses for adult farmers which will be held during the fiscal year which began July 1. S. A. Parham, agronomist at Georgia Coastal Plain Experiment Station, will give information on fertilization.

V-C Chemical Elects Director, Announces Personnel Changes

RICHMOND, VA. — Charles T. Harding, executive vice president of the Virginia-Carolina Chemical Corp., was elected to the company's board of directors. This is Mr. Harding's third major promotion at V-C in the past five months.

At the same time, the board elected Dr. William P. Boyer vice president, and Wallace T. McKeel treasurer. Dr. Boyer is the head of V-C's Chemicals division and Mr. McKeel was assistant treasurer.

Mr. Harding started with V-C in 1918 as a general handy man in a Washington, N.C., fertilizer plant. His first job was assembling wheelbarrows.

Last March, he was named vice president in charge of fertilizer manufacturing, and in May he was elected executive vice president, a position second only to Justin Potter, president.

Dr. Boyer, the new vice president, is responsible for the sales, marketing and production of all V-C chemicals. V-C's Chemicals division produces phosphorus related chemicals in Charleston, S.C., and Fernald, Ohio.

Before joining V-C in 1947, Dr. Boyer was professor of chemistry at Virginia Military Institute (VMI), his alma mater. He was named assistant research director in 1949, director in 1951, and was put in charge of research and development in 1956. He received his doctorate at the University of Virginia in 1942 and was a consultant to V-C before joining the company.

Mr. McKeel, the new treasurer, assumes some of the duties of Amos M. Schuster who will continue to serve the company as administrative vice president.

Mr. McKeel started with V-C nearly 42 years ago as a bookkeeper. He has served as a chief clerk, manager of cost accounting, chief accountant and assistant treasurer.

In other business, the company announced the following changes in its fertilizer sales organization:

Wallace H. LaPrade, formerly district manager in Orrville, Ohio, has been appointed manager of specialty products. He will handle sales of nitrogen solutions and coordinate sales of V-C's Lawn Builder fertilizer.

William J. Bryan, salesman in the Cincinnati district, has been named acting district manager at Orrville.

C. H. Godfrey, former regional manager for the midwest, has been appointed manager of triple superphosphate sales.

Harold A. Dale, formerly assistant to the manager at Shreveport, La., has been named district manager at Hopkinsville, Ky.

In V-C's bag division, Riley Milam, formerly office manager for the company's Atlanta, Ga., plant, has been named sales service manager for the bers of its fertilizer sales organiza division.

The firm also will send eight members of its fertilizer sales organization and their wives to Bermuda for an expense-paid week's vacation starting Aug. 22.

The eight—four district managers and four salesmen—are winners in the company's "Showboat" sales contest started last January. Points were awarded for each ton of mixed fertilizer sold.

Winning managers are E. Exum Griffin, Estherville, Iowa; C. D. Griffin, Norfolk, Va.; P. E. Bradley, Memphis, Tenn., and W. D. Barton, Montgomery, Ala.

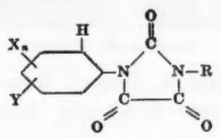
Winning salesmen are Stanley K. Thomsen, Estherville; George M. Davis, Jr., Norfolk; Clyde Washburn, Jr., Memphis; and W. C. Edge, Birmingham, Ala.

Croplife Want Ads... Get Results

PATENTS and TRADEMARKS

2,895,817

Herbicidal Method and Composition Employing Substituted Phenyl Parabanic Acids. Patent issued July 21, 1959, to Raymond W. Luckenbaugh, Wilmington, Del., assignor to E. I. du Pont de Nemours and Co., Wilmington. The method for the control of undesired vegetation comprising applying to the locus to be protected, in an amount sufficient to exert herbicidal action, a compound represented by the formula:



wherein X and Y are selected from the group consisting of hydrogen, halogen, and alkyl groups containing less than 5 carbon atoms; *n* is a positive integer less than 4, and R is an alkyl group containing less than 5 carbon atoms.

2,895,872

Agronomical Practice for the Control of Nematodes with 1,2,3-Tribromopropane. Patent issued July 21, 1959, to Lloyd J. Meuli, Long Beach, Cal., assignor to the Dow Chemical Co., Midland, Mich. In the practice of plant husbandry for the control of nematodes, the method which comprises impregnating soil with 1,2,3-tribromopropane as the sole active nematocidal ingredient in the amount of at least 1.0 part by weight per million parts by weight of soil.

2,895,869

Method for Controlling Nematodes. Patent issued July 21, 1959, to Henry Bluestone, Cleveland Heights, Ohio, assignor to Diamond Alkali Co., Cleveland, Ohio. The method of controlling nematodes which comprises contacting nematode-infested soil with a nematocidal amount of a composition including as an active toxic ingredient a compound having the formula

$$H_nCX_{3-n}—CH=C(R)—NO_2$$

wherein *n* is a number from 0 to 3, inclusive, X is halogen and R is selected from the group consisting of hydrogen, lower alkyl, phenyl, naphthyl, tolyl, xylyl, benzyl and phenethyl radicals.

2,897,110

Method of Destroying Fungi and Nematodes Employing Trimethyl Thiophosphite. Patent issued July 28, 1959, to Carleton B. Scott, Pomona, Cal., assignor, by mesne assignments, to Collier Carbon & Chemical Corp. The method of controlling the growth of fungi and nematodes which comprises supplying to the habitat thereof a fungicidal and nematocidal amount of trimethyl thiophosphite.

2,897,114

Fungicidal Composition. Patent issued July 28, 1959, to Thomas W. Sauls, College Park, Ga., assignor to Tennessee Corp., New York. A fungicidal composition adapted when mixed with water to form a wet spray containing a dispersed suspension of water-insoluble polyvalent metal salt of dodecylbenzene sulfonic acid as an active fungicidal ingredient, said composition comprising a dry, comminuted, substantially free-flowing physical mixture of a water-soluble dodecylbenzene sulfonate of the group consisting of the sodium and potassium sulfonates and a water-soluble polyvalent metal salt of the group consisting of the water-soluble salts of zinc, copper, barium, iron, manganese, magnesium, calcium, lead and mercury, said mixture being packaged for distribution in the dry state and said sulfonate and said water-soluble metal salt having approximately stoichiometric proportions and adapted to react when added to water to form a stable aqueous suspension of a finely divided dispersed precipitate of said water-insoluble metal salt of dodecylbenzene sulfonic acid.

2,897,113

Fungicidal Compositions Comprising 6-Alkyl-3-Cyclohexyl-3,4-Dihydro-2H-1,3-Benzoxazines and Method of Use. Patent issued July 28, 1959, to Richard H. Gruenhagen and Lois L. Fritts, Midland, Mich., assignors to the Dow Chemical Co., Midland. A fungicidal composition comprising at least 2% by weight of a 6-alkyl-3-cyclohexyl-3, 4-dihydro-2H-1, 3-benzoxazine wherein the alkyl radical contains from 3 to 12 carbon atoms, inclusive, and an inert carrier selected from the group consisting of a finely divided inert solid, a surface active dispersing agent, and a mixture of a water-immiscible organic liquid and a surface active emulsifying agent.

Industry Trade Marks

The following trade marks were published in the Official Gazette of the U.S. Patent Office in compliance with section 12 (a) of the Trademark Act of 1946. Notice of opposition under section 13 may be filed within 30 days of publication in the Gazette. (See Rules 20.1 to 20.5.) As provided by Section 31 of the act, a fee of $25 must accompany each notice of opposition.

Collier, in capital letters, for ammonium nitrate. Filed Aug. 12, 1958, by Collier Carbon & Chemical Corp., Los Angeles. First use Nov. 7, 1957.

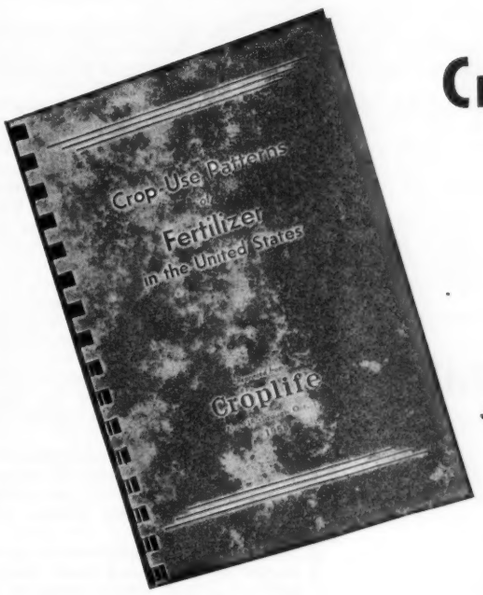
Bugwall, in capital letters, for soil conditioner comprising humus treated with insecticide and plant food materials. Filed June 26, 1958, by Louis D. Lovallo, d.b.a. Bugwall Humus, Cheektowaga, N.Y. First use Sept. 19, 1957.

Gibb, in capital letters, for chemical spray to be applied to plants and fruits to stimulate their growth. Filed Dec. 26, 1958, by United-Heckathorn, Richmond, Cal. First use Dec. 5, 1958.

Sea Magic, in capital hand-drawn letters, for plant nutrient and pest deterrent. Filed Feb. 3, 1959, by Chase Protected Cultivation Ltd., Shepperton, Middlesex, England. First use in January, 1958.

Big Catch, in capital letters, for fish pond plant food. Filed Feb. 11, 1959, by International Minerals & Chemical Corp., Skokie, Ill. First use March 26, 1958.

You'll get a better understanding of the fertilizer market from this valuable new book



Crop-Use Patterns of Fertilizer in the United States

by

J. R. ADAMS L. B. NELSON D. B. IBACH

U.S. DEPARTMENT OF AGRICULTURE

This significant report was compiled by the U.S. Department of Agriculture after thorough studies of fertilizer use in the United States. Crop-Use Patterns covers questions which, until now, have not been adequately answered. Crop-Use Patterns is based on information gathered from every fifth farm surveyed in the most recent U.S. Census . . . providing a broad base of national information.

Some of the questions answered are:

what portions of croplands receive fertilizer
how fertilizer is used among major crops
how much acreage for each crop is fertilized

Specific fertilizer uses analyzed are:

Corn, Tobacco, Wheat
Oats, Cotton, Potatoes
All Crops and Cropland Pasture
Hay and Cropland Pasture

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INSECT NOTES

(Continued from page 5)

Jefferson, Leavenworth and Wyandotte counties. The dominant species was the red legged grasshopper which is about half grown.

Spotted alfalfa aphids were found in most alfalfa fields in the southeast, east central and northeast parts of the state. Counts were less than one per sweep. Reports from Finney County indicated counts from 5 to 100 per sweep. The mid-summer build up of spotted alfalfa aphids indicated that the problem was getting fall stands established as was true last f[illegible]. Seed treatments are not available for spotted alfalfa aphid.

Dead areas in ornamental cedars from juniper mealy bugs have been reported from Barton County. This insect was also reported from Hodgeman County.—Dell E. Gates.

White-Fringed Beetle Discovered in Arkansas

LITTLE ROCK, ARK.—Agricultural officials reported that the white-fringed beetle has been discovered in Arkansas.

James C. Haley, supervisor, USDA Plant Pest Control Division, said the South American import was first found last month in St. Francis County, eastern Arkansas.

He said this beetle invaded the U.S. some 23 years ago when it gained a foothold in Florida. It has been migrating steadily northward, he added.

The USDA has survey teams in east Arkansas making studies in an effort to determine the extent of the beetle population. A control program will be planned when this is determined.

Mr. Haley called the outbreak a "light" one, but warned it must be watched carefully to prevent the spread of the insects to surrounding areas.

The pest has been added to a list of eight insects, diseases or virus conditions plant inspectors watch for in routine surveys in states adjacent to those with known infestations.

Mr. Haley said the beetle was discovered near Widener during a routine investigation. He said it apparently had been brought into the state from Tennessee. Infestations have been found as near to Arkansas as Shelby County, Tenn.

He warned the white-fringed beetle could cause serious damage to cotton, soybeans, peanuts, Irish potatoes, truck crops, broadleaf garden flowers and ornamental plants.

Boll Weevils Increasing In Southern Tennessee

KNOXVILLE, TENN. — Boll weevils are still on the increase in the southern counties of Tennessee, but not all fields are yet infested. The heavier infested fields are usually the older fields. Infestations are more or less general in the southeast part of the area while they are scattered from that area west, through the southern tier of counties.

Conditions are ideal for a further build-up. No short or long distance migration has been observed. Counts averaged 13% as compared with 10% for the last report.

Boll worms can be found in most fields, but damage is light. It is believed that beneficial insects are keeping them in check. Large numbers of worm parasites are in the fields.

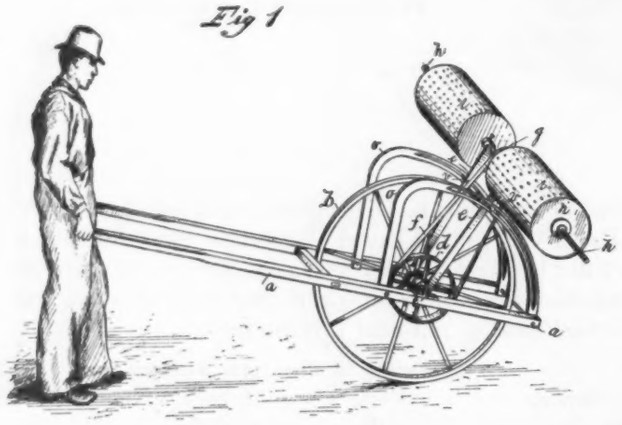
Flea hoppers, tarnished and rapid plant bugs were present in all fields surveyed but the damage was light.

Spider mite infestations were slowed down because of rains. Damage is confined to spots. More infestations were found and control was needed in many fields.

Spot infestations of aphids were being found over the cotton growing area.—R. P. Mullet.

Saga of Insect Pest Control

Fig 1



SILAS RUGGLES, resident of Palmer, Mass., doubtless had witnessed attempts to control various insects infesting crops and seeing the need for more adequate application methods, sat down and invented a plant-duster device for which he was granted U.S. Patent No. 243,727 on July 5, 1881.

The device, as readily noted in the illustration above, consisted of two perforated cylinders suitable for holding and allowing the powdered insecticide (or fertilizer) to shake through the sides as they revolved. The cylinders were adjustable to correspond with the height of plants being treated, or to compensate for too much wind.

Operators, the inventor claimed, might "pass along with it between the rows of plants with considerable rapidity and at the same time thoroughly dust the plants." Another thoughtful touch was the arrangement by which the cylinders could be disconnected from the drive wheel, thus preventing excessive spillage while the device was being moved from place to place.

The machine could double as a fertilizer applicator, too. The cylinders were coarsely perforated which was considered to be a "great advantage in evenly and economically distributing fertilizer over land."

Chemical Brush Control Suggested as ACP Practice in Arkansas

FAYETTEVILLE, ARK.—Agricultural officials have taken the first step toward an all-out war against the silent invasion of brush that threatens thousands of acres of crop and grazing land in Arkansas.

Dr. Dale Hinkle, representing the University of Arkansas Agronomy Department at the annual meeting of the Agricultural Conservation Program group, recommended that chemical brush control be included as a practice in the 1960 program.

Dr. Hinkle urged policies designed to prevent the indiscriminate use of the practice on land where destruction of timber would cause erosion problems, specifying it not be used on salable or potentially salable timber.

Officials have drawn the conclusion that the university thinks the practice should be limited to "brush" areas—stands of persimmon, scrub oak and other similar undergrowth. Some experts pointed out that many fields once in cultivation have been claimed by brush.

One hills country farmer aptly put it this way: "We've turned it back to the Indians. Can't fight the brush and make a living."

Agricultural workers now face the problem of whether to approve chemical brush control in the 1960 ACP handbook. If approval is made, the government apparently would share the cost of spraying overgrown fields.

Regardless of the ACP decision, indications point to increased sales of brush and weed control chmicals in Arkansas. Many farmers are planning to fight the brush independently next year, and the use of weed control chemicals is becoming highly popular in the state.

There is an estimated 3,500,000 acres of "brush land" in the Ozark Mountain country of Northwest Arkansas alone.

If the plan is put into operation, first efforts will probably be directed at relatively level fields grown over with persimmons and similar type plants.

The emphasis apparently would be placed on reclaiming land once in cultivation. Past efforts in North Arkansas to reclaim steep timber land for pasture purposes have generally been regarded as "failures" by conservation experts.

Gordon Boles of Dardanelle estimates a good control program would increase the grazing capacity of brushy timberland by 400%. An estimated 75,000 acres in Arkansas have been treated without government aid.

Highway Equipment Names New Distributor List

CEDAR RAPIDS, IOWA — Highway Equipment Co. has announced as new distributors of its "New Leader" line of spreaders and blenders the following:

Heislers Inc., Willard, Ohio; Equipment Service, Inc., Hartford, Conn.; Flasco Body and Equipment Co., Sioux Falls, S.D., and Dealers Truck Equipment Co., Inc., Shreveport, La.

6-MONTH REPORT

WILMINGTON, DEL. — Hercules Powder Co. reported for the six months ended June 30, 1959, net income equal to $1.36 a share of common stock. Net income in the first six months of 1958 was equal to 89¢ a share of common stock. Net sales and operating revenues for the six months' period were $137,200,312, compared with $116,773,028 for the corresponding 1958 period.

Trenton R. Tunnell

Trenton R. Tunnell Named Ashcraft-Wilkinson Head

ATLANTA, GA.—Trenton R. Tunnell has been named president of Ashcraft-Wilkinson Co., of Atlanta, according to an announcement by George W. McCarty, chairman of the board of the firm.

Mr. Tunnell succeeds Van W. Wilkinson, who has been made vice chairman of the board, the announcement said.

Formerly executive vice president, Mr. Tunnell has spent his entire business career with Ashcraft-Wilkinson Co. He became associated with the company in 1920. He attended the University of Tennessee.

In addition to the firm's home office located in Atlanta, Ashcraft-Wilkinson maintains sales offices in Norfolk, Va.; Charleston, S.C.; Tampa, Fla.; Jackson, Miss.; Columbus, Ohio; Montgomery, Ala., and Des Moines, Iowa.

Californians Hold Meetings on Lygus Bug Control Methods

SACRAMENTO—Special meetings have been held in Sutter County under the sponsorship of John Lindt, farm adviser, to demonstrate the latest methods of controlling Lygus bugs which have been particularly active this season in bean fields.

Working with Mr. Lindt on the bean problem are Dr. W. W. Middlekauff and Dr. Oscar Bacon, both of the University of California staff, who have completed a two year survey at the request of the bean industry on pod borer problems.

Mr. Lindt reports that the scientists found only three real pod borers in two years of field testing. Instead, it was found that Lygus bugs are the chief damaging insect. The corn ear worm and the bean lycinid have been contributing to the loss problem of bean raisers.

Dr. Middlekauff said the serious nature of the damage lies not so much in the early blossom drop as in downgrading through partial destruction of beans and pods as harvest nears.

Sprays should be applied, Dr. Middlekauff said, when the largest number of nymphs have hatched. Sweep nets are useful in determining this stage.

It was revealed at the meetings that spray controls should be initiated when, through a series of sweeps, the Lygus nymph or adult population is found to be from two to three for baby limas, one to one and one-half for pinks, reds and small whites, and as low as one-half per sweep on blackeyes.

AGRICULTURE FIGURE DIES

SPRINGFIELD, ILL. — Orrin Ned Pippin, 48, control and personnel manager of the DeKalb Agricultural Assn., died at St. John's Hospital in Illiopolis.

E. C. Richardson J. H. Hallowell

NEW MANAGERS — Edward C. Richardson has been appointed Chicago division sales manager and Jesse H. Hallowell, Boston division sales manager for U.S. Industrial Chemicals Co., division of National Distillers & Chemical Corp., announced A. R. Ludlow, Jr., vice president in charge of sales. Mr. Richardson, who has been with U.S.I. since 1940, replaces George H. Stanton, who is now the firm's director of field sales. Mr. Hallowell, who worked as a salesman out of the firm's Chicago office, replaces Mr. Richardson.

Mississippi Group Pledges Support to Fire Ant Program

JACKSON, MISS.—The Mississippi Farm Bureau Federation announced it is solidly behind the state's fire ant control program despite controversial publicitiy from some sportsmen.

Boswell Stevens, federation president and a quail hunter himself, cited a survey of a similar program being conducted in Alabama and said, "Sportsmen have nothing to worry about as far as eradication of game is concerned."

Mr. Stevens reported that he lost a $3,000 winter pea crop because of fire ant mounds which he has been unable to eradicate. His farm, located in Noxubee County, is still beyond the perimeter of the local, state, federal eradication program which is currently fanning out from the Gulf Coast area where the pest made its first appearance in Mississippi.

A survey of Mississippi farmers is being made to determine possible effects on wildlife. Mr. Stevens said results of this survey are expected to be similar to the Alabama poll which showed farmers to be predominantly in favor of the fire ant eradication program.

Mr. Stevens said this summer and fall, additional infested counties will be seeking matching funds from county supervisors and these facts need to be known by the public so the extent of fire ant damage will not be underestimated.

Leonard Gets Contract For Sulfuric Acid Plant

CHICAGO—Leonard Construction Co., Chicago, has announced receiving the contract award for engineering and construction of a three-quarter-million dollar contact sulfuric acid plant at Cairo, Ohio, for the American Agricultural Chemical Co. (Croplife, page 1, July 20).

The plant will use elemental sulfur as a raw material and will use Monsanto Chemical Co. vanadium sulfuric acid catalyst. Construction will begin immediately, with completion scheduled for March, 1960.

4-H to Launch Weed Identification Program

SACRAMENTO—A new weapon in the war against weeds in California, a weed identification program in 4-H clubs, is being launched by the weed control committee of the California Farm Bureau Federation.

The committee has agreed to sponsor preparation of color slides of weed pests and to urge county weed committees to make funds available for the project.

Opposition to Changes in Pink Bollworm Program Flares at Arkansas Hearing

LITTLE ROCK—Opposition to changes in the operation of the pink bollworm control program in Arkansas turned up last week at a hearing conducted by the Arkansas Plant Board.

The board let some of the smoke settle after listening to opposing arguments in the touchy case. Officials apparently will bide their time and hope for some solution to settle the problem.

The hearing was called to determine what ginners and farmers thought about changing the lines of a northeast Arkansas quarantine area and an inspection fee on cotton at the gin level to finance the control program.

Pink bollworms were discovered last year in parts of Greene, Clay and Craighead counties, which were designated Area A. This is the specification for areas where full control measures are applied.

The Plant Pest Control Division of the U.S. Department of Agriculture changed the boundary lines this summer, and the State Plant Board wanted to alter its quarantine lines to coincide with those of the USDA.

The proposal created a mild disturbance from the 10 ginners from the three counties who were present at the hearing.

Floyd H. Fulkerson, North Little Rock, chairman of the Plant Board, said additional funds would have to be raised to finance operation of the control program. Noting that a shortage of funds had developed, he suggested a fee of five cents a bale.

With one exception, the ginners and farm representatives called the proposed fee "unfair."

W. Kemper Burton, Blytheville, executive vice president of the Arkansas-Missouri Cotton Ginners Assn., said producers and processors were "not being consulted" on the proposed changes in the program.

He charged the Plant Board with issuing regulations when it should sponsor "educational programs" to bring about compliance. "There is no unity in the control program and the plant board is not making effective use of existing organizations," he added.

Mr. Burton warned: "If you keep changing your plans without letting people know what is happening, there is a good chance that you will have to put a lot of farmers in jail to force compliance with the program."

Mr. Fulkerson told the group Arkansas is trying to maintain a program that is acceptable to USDA. He warned that the alternative is to place the entire state under USDA quarantine, forcing the state board out of the program.

Arkansas is considered an "eradication" area and the program is aimed at wiping out the invasion of worms.

James Haley, head of the USDA's plant pest control team in the state, said the department is trying to make it possible for Arkansas farmers to continue marketing their commodities in the usual way.

But some state officials appear to be on the verge of giving up on the program.

Dr. Charles Lincoln, head of the entomology department at the University of Arkansas College of Agriculture and an ex-officio member of the Plant Board, said he is "ready to toss in the towel as far as the . . . program is concerned."

Said Dr. Lincoln: "I am convinced that the cotton industry in Arkansas is unwilling to accept responsibility for fighting the invasion of pink bollworms."

"We (Plant Board) have taken a beating on this thing since it started and it seems to me we should get out of the way and allow the cotton industry and the USDA to work things out the best way they could."

Mr. Burton and others urged the board to attempt to operate with available funds rather than to try to raise more money. He argued that one segment of the economy—the ginners—shouldn't be burdened with the work and financing of something that is of interest to many other groups.

The group approved a resolution asking for the policy urged by Mr. Burton, but Dr. Lincoln called the measure useless. He said it was like passing a resolution favoring an automobile that would run without gasoline.

Mr. Fulkerson reminded the group that funds for the pink bollworm control program have been coming from Gov. Faubus' emergency fund and from the feed, seed and fertilizer fund of the Plant Board.

"Bollworm work twice has depleted the feed, seed and fertilizer fund of the board," he added.

A Plant Board technician backed up the statement. He said this department had reduced its seed testing program by 700 samples this year because inspection fee money has been diverted to bollworm work.

He said the shortage of funds developed after the control program was expanded to include more than 600 gins and 62,000 cotton allotments and because fiscal funds were cut from $173,000 to $75,000.

Last year, only 60 gins and 4,000 allotments were included in the program.

Gov. Faubus has asked those involved to review the program in an effort to determine if money could be saved without reducing the effectiveness of the project.

He said he would "see what I can do" about financing the program from his emergency fund. He has allocated monies from the fund in the past to handle similar programs.

The board is expected to make some kind of formal recommendation in the future. The public hearing was required by law before the board could make any possible changes in the program.

Industry observers generally feel that if the money is not made available from the governor's emergency fund the board will impose the inspection fees.

And, they feel this would create a storm of protest among ginners, possibly ending the pink bollworm control work being performed by the Plant Board.

Willard G. Kleist Joins West Virginia Pulp & Paper

NEW ORLEANS — Willard G. Kleist has joined West Virginia Pulp and Paper Co. as sales representative for the multiwall bag division in the New Orleans area, announced Jason M. Elsas, regional manager. He will cover Mississippi, Arkansas, northern Louisiana and Memphis, Tenn.

Mr. Kleist was previously associated with Fulton Bag & Cotton Mills for 22 years. Altogether, he has more than 25 years' experience in the bag field.

Agrico Names Manager Of Indiana Sales Office

NEW YORK — B. L. Emkes has been named manager of Agrico's Seymour, Ind., sales office, announced W. J. Turbeville, Jr., vice president in charge of fertilizer sales for the American Agricultural Chemical Co.

Mr. Emkes was formerly assistant manager at Seymour. He joined the Agrico organization when the company purchased the Buhner Fertilizer Co. plants at Seymour and Danville, Ill., in 1957.

AUSTRALIAN SPRAYING

MELBOURNE, AUSTRALIA — Statistics compiled by the Department of Civil Aviation show that 2,381,000 acres were treated from the air in 1958. Of these, superphosphate was spread over 1,308,000 acres, about 87% of which were in New South Wales and Victoria. Insecticides and herbicides were spread over a total area of 807,000 acres. A total flying time of 28,000 hours was expended in aerial agricultural operations.

IMC Plant Food Division Realigns

SKOKIE, ILL.—The plant food division of International Minerals & Chemical Corp. has announced realignment of its sales organization and production facilities in seven central and south-central states.

John D. Zigler, general manager of the division, said the change involves three plants and five sales districts.

They are:

Cincinnati Area—(Ohio, Southern Indiana, Kentucky) extended to include Eastern Tennessee, and Southwestern Virginia.

Tupelo, Miss., Area — (Alabama, Mississippi, Southwestern Tennessee) extended to include Western Tennessee and Western Kentucky.

Atlanta Area — (Georgia, North and South Carolina border counties) district sales offices opened in Americus and Tifton, Ga. (where IMC has fertilizer plants) replacing a district office in Albany.

The Cincinnati area will continue under the direction of Harold H. Douthit. Other plants and offices in the area are at Somerset, Ky., and Greeneville, Tenn. Mr. Douthit announced the following revisions and personnel changes for the area:

James H. Sibley, district sales manager at Clarksville, Tenn., was promoted to district sales manager at Greeneville. He replaces Sam B. Broyles, who retires Oct. 1.

The Tupelo area continues under Sam P. Marshall, area manager. He will direct sales and operations at Clarksville, Tenn.; Florence and Cullman, Ala. and Tupelo.

Personnel changes in the Cincinnati area as announced by Mr. Marshall are:

E. Harold Harris, sales representative, Clarksville, promoted to district sales manager there, replacing James H. Sibley, who was promoted to district sales manager at Greeneville.

Stanton D. Maple, a production supervisor at Texarkana, Ark., promoted to superintendent at the Clarksville plant, replacing J. H. Whitesides, promoted to superintendent of Tifton, Ga., plant.

The Atlanta, Ga., area continues under William L. Baughcum, area manager in charge of operations and sales at East Point (suburban Atlanta), Augusta, Americus and Tifton, Ga. He announced the following personnel changes:

Norton Futch, sales representative at Albany, promoted to district sales manager at Americus, and W. P. Burke, former district sales manager at Albany, transferred to Tifton as sales manager of the new district.

Malcolm W. James, general foreman at the Americus plant, promoted to plant superintendent.

J. H. Whitesides, plant superintendent at Clarksville, Tenn., replaces T. M. Freeman, plant superintendent at Tifton, who retires after 38 years service.

FIRM INCORPORATES

LITTLE ROCK, ARK. — The Village Nursery and Garden Center, Inc., Little Rock, has filed articles of incorporation with the Arkansas secretary of state's office to operate a plant nursery and related type business. The firm was authorized 1,000 shares of no par value stock. Incorporators were Gus B. Walton, H. M. Stephenson and M. A. Kiwan, all of Little Rock.

Croplife®

A WEEKLY NEWSPAPER FOR THE FARM CHEMICAL INDUSTRY

The regional circulation of this issue is concentrated in the Southern states.

"Good" Side of Pesticide Story Needs to be Told More

PESTICIDE INDUSTRY PEOPLE, long frustrated in their efforts to get before the public the "good" story of insecticides and other chemical materials used to control weeds and fungi, will be heartened at the report of at least one citizen who had some favorable comments to make on the subject.

Roy Martinez of Santa Fe, New Mexico, operates a tree service in that city, and had become "fed up" with the continual complaints of bird lovers and others who fear the consequences of using insecticides.

So he wrote a letter to the editor of "The New Mexican," daily newspaper in Santa Fe, to the effect that bird lovers who have been criticizing the use of pesticides have a choice to make: protect the trees, or risk losing both the trees and the birds.

"I, as much as the next citizen, enjoy and love birds and surely would do my utmost to prevent anybody from killing them," he wrote. "The insecticides used by this tree service are safe for bird life."

Mr. Martinez pointed out that all his formulas are checked with the State Health Department and his use of them is in accordance with official advice.

"We are not opposed to being regulated as to the use of our insecticides," he indicated. "However, it is necessary to spray the many infested trees in Santa Fe or it will be a question of losing the trees as well as the birds. Perhaps if the citizens of Santa Fe were more interested in tree life, more work could be accomplished to benefit both birds and trees."

Mr. Martinez has expressed belief that good community relations depend on complying wholeheartedly with official regulations, and replying to false charges and misinformation against the pesticide trade and its products. In the latter case, the answers should be given promptly and vigorously, he declares.

It's true! The pesticide industry needs stout defenders on the home front. Letters to the editors of local papers; talks before garden clubs or wildlife groups; or even conversations with customers and social friends are effective.

The facts are that pesticides more than earn their way in benefits from the standpoints of both public health and agricultural production. Yet when the public hears only the negative side, the good points fade and are forgotten unless someone takes the initiative to present the facts.

Price Hagglers Still With Us

WHY WILL A FARMER come into town, drool over shiny new tractors equipped with power steering and radio, or self-propelled combines and other mechanical gadgets, then walk over to the fertilizer department and complain bitterly about the "high price" of plant food? Maybe if there were some way to render fertilizer shiny and bright and otherwise appealing to the eye, it too would rate the admiring ogles of its potential buyers. We don't know.

Dr. Richard Balser, chief agronomist of Spencer Chemical Co. in a current "think piece" appearing in the company's house magazine, "Today's Fertilizer Dealer," brings up the question and pursues it at some length. Because of the appropriate subject, Croplife has reprinted the article on page 14 of this issue.

The farmer stands to make more from his investment in fertilizer than from any other item he uses. It seems most strange that so much fuss should be made about price.

Anniversary for Miller Act

A LITTLE MORE THAN five years ago, the Miller law was passed, providing the machinery necessary for setting tolerances for pesticidal residues on harvested crops. It assured the public that no product can be included in foodstuffs without first having been proved completely safe through laboratory testing.

At the time of its enactment, the amendment was looked upon with both favor and apprehension by the industry. Those who favored it did so with a feeling that despite its adding greatly to the cost of putting a pesticide on the market, its restrictive features were not as severe as other bills being proposed about that time. In other words, it appeared as the least of a number of possible legislative evils.

Apprehension was felt by those who feared any kind of additional regulation. Some of these fears were well-founded, but the industry was convinced that if the Miller amendment were not accepted, then more stringent legislation would almost certainly follow.

It seems odd that despite provisions in the law to protect citizens from any harmful residues from insecticides, fungicides or herbicides, there remain so many who still feel they are being poisoned.

Under provisions of the Miller Act, more than 1,200 tolerances have been provided for raw agricultural products, plus some 800 more based on the 1950 spray residue hearings held in Washington. Most of the 1,200 tolerances have been set in the past four years, the first year having seen only a few petitions coming into the Food and Drug Administration because so much research had to be done to support safety claims made by applicants. The application rate is currently about 50 a year.

Some problems still haunt both the industry and FDA. These include zero tolerances set for some pesticides, and also the "no tolerance" rule for any pesticides in milk. Still another has to do with potentiation, the situation in which the residue of two pesticides used in combination is greater than the sum of the two used individually. This latter issue has raised the question whether the tolerance for each pesticide involved in a potentiation case should be lowered to compensate. Thus far, of course, this has not been done.

Widespread application of pesticides on forage crops and pasturelands presents another situation about which many people raise objections because of the possibility that some of the residues may be carried into the animal and thus be eaten by humans. No tolerances have been set for pesticidal residues in meat, and FDA has not favored the setting of tolerances in that area. Many in the industry have expressed the opinion that eventually tolerances may have to be set for meats.

Eradication programs have put quite a strain on this phase of the question since large-scale projects of this nature cover many acres of forage land. Foes of pesticidal programs are quick to point out this fact.

Five years of the Miller Act have shown that the pesticide industry can not only live under the legislation spelled out in the law, but may prosper as well. Not every question is answered, of course, but many important steps have been taken toward eventual solution of the rough places

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Sept. 17—New Jersey Fertilizer Conference, Rutgers University, New Brunswick, N. J.

Sept. 20-23—Seventh Annual Meeting Canadian Agricultural Chemicals Assn., Chateau Frontenac, Quebec City.

1960

Jan. 13-15—Ninth Annual Convention, Agricultural Ammonia Institute, Statler Hilton Hotel, Dallas, Texas.

Meeting Memos listed above are being listed in this department this week for the first time.

Aug. 11-12—Summer Tour of the Ohio Pesticide Institute, at Ohio Agricultural Experiment Station, Wooster, Ohio.

Aug. 12-13 — Northeast Fertilizer Safety School, Cornell University, Ithaca, N.Y.

Aug. 18—Alabama Fertilizer Conference, Horticulture Substation, Cullman, Ala. and Tennessee Valley Substation, Belle Mina, Ala.

Aug. 18-19—Midwest Fertilizer Safety School, National Safety Council Headquarters, Chicago, Ill.

Aug. 19—Alabama Fertilizer Conference, Tennessee Valley Authority, Wilson Dam, Ala. and Upper Coastal Plain Substation, Winfield, Ala.

Aug. 18-22—Annual Convention of the Canadian Fertilizer Assn., Bigwin Inn, Lake of Bays, Ontario.

Aug. 25—Fertilizer industry tour, Miami County, Ohio, NPFI sponsored.

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Aug. 26-28—Soil Conservation Society of America, 14th Annual Meeting, Rapid City, S.D.

Aug. 28-29—Southeast Fertilizer Safety School, Heart of Atlanta Motel, Atlanta, Ga.

Aug. 28-29—Minnesota Agricultural Ammonia Institute, University of Minnesota, St. Paul, Minn.

Aug. 30-Sept. 3—American Institute of Biological Sciences annual meeting, Pennsylvania State University, University Park, Pa.

Sept. 3-4—Fertilizer Salesmen's School, North Carolina State College, Raleigh, N.C.

Sept. 10—New pesticide review for Central California, sponsored by Western Agricultural Chemicals Assn., Fresno Fairgrounds, Fresno, Cal.

Sept. 24—Fertilizer Technology & Economics School & Tour for California Bankers, University of California, Berkeley, Cal.

Sept. 24-25 — Annual North-Eastern Fertilizer Conference, NPFI, Biltmore Hotel, New York, N.Y.

Sept. 25—Annual Crops Day, University of Arizona, Safford, Ariz.

Sept. 30-Oct. 1—Fourth Southeastern Fertilizer Conference, Atlanta Biltmore Hotel, Atlanta, Ga.

Oct. 13-14—Western Agricultural Chemicals Assn., fall meeting, Villa Motel, San Mateo, Cal., C. O. Barnard, executive secretary.

Oct. 14-16—Pacific Northwest Plant Food Assn. Annual Convention, Chinook Hotel, Yakima, Wash.

Oct. 15—NPFI Conference on Chemical Control Problems, Shoreham Hotel, Washington, D.C.

Oct. 21-23 — National Agricultural Chemicals Assn., 26th annual meeting, French Lick-Sheraton Hotel, French Lick, Ind., Lea S. Hitchner, executive secretary.

Oct. 27—Seventh Annual Grassland Farming Conference, Extension Service, Rutgers University College of Agriculture, New Brunswick, N.J.

Nov. 4-5—Fifth Annual Oklahoma Fertilizer Dealers and Crops and Soils Conference, Stillwater, Okla.

Nov. 4-6—Fertilizer Industry Round Table, Mayflower Hotel, Washington, D.C. Dr. Vincent Sauchelli, National Plant Food Institute, chairman.

Nov. 8-10—National Fertilizer Solutions Assn., Annual Convention, Statler Hilton Hotel, St. Louis; Muriel F. Collie, 2217 Tribune Tower, Chicago 11, executive secretary.

Nov. 9-11 — California Fertilizer Assn., 36th annual convention, Fairmont Hotel, San Francisco.

Nov. 16-20 — National Aviation Trades Assn., 20th annual convention, New Orleans, La.

Nov. 30-Dec. 4—27th Exposition of Chemical Industries, New York Coliseum, New York City.

Nov. 30-Dec. 5—Joint meeting, Entomological Society of Ontario; Entomological Society of Canada and Entomological Society of America, Hotel Sheraton-Cadillac, Detroit, Mich.

Dec. 2-3—Annual Missouri Fertilizer Conference, Columbia, Mo.

Dec. 7-10—Central Canada and North Central Weed Control Conferences, Royal Alexandra Hotel, Winnipeg, Manitoba, Can.

Dec. 8-10—Joint Meeting of Western Canadian and North Central Weed Control Conferences, Winnipeg, Manitoba.

Dec. 9-11—International Crop Protection and Pest Control Exhibition, Seymour Hall, St. Marylebone, London, England.

Dec. 10-11—Annual Arkansas Plant Food Conference, Little Rock, Ark.

1960

Jan. 5-6—Annual Texas Fertilizer Conference, College Station, Texas.

Jan. 6-8—14th Annual Meeting, Northeastern Weed Control Conference, Hotel New Yorker, New York City.

Jan. 14-16—10th Annual Convention of the Agricultural Aircraft Assn., El Mirador Hotel, Palm Springs, Cal.

CALENDAR FOR 1959-60

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DR H. DOUGLAS TATE
NAUGATUCK CHEMICAL DIVISION
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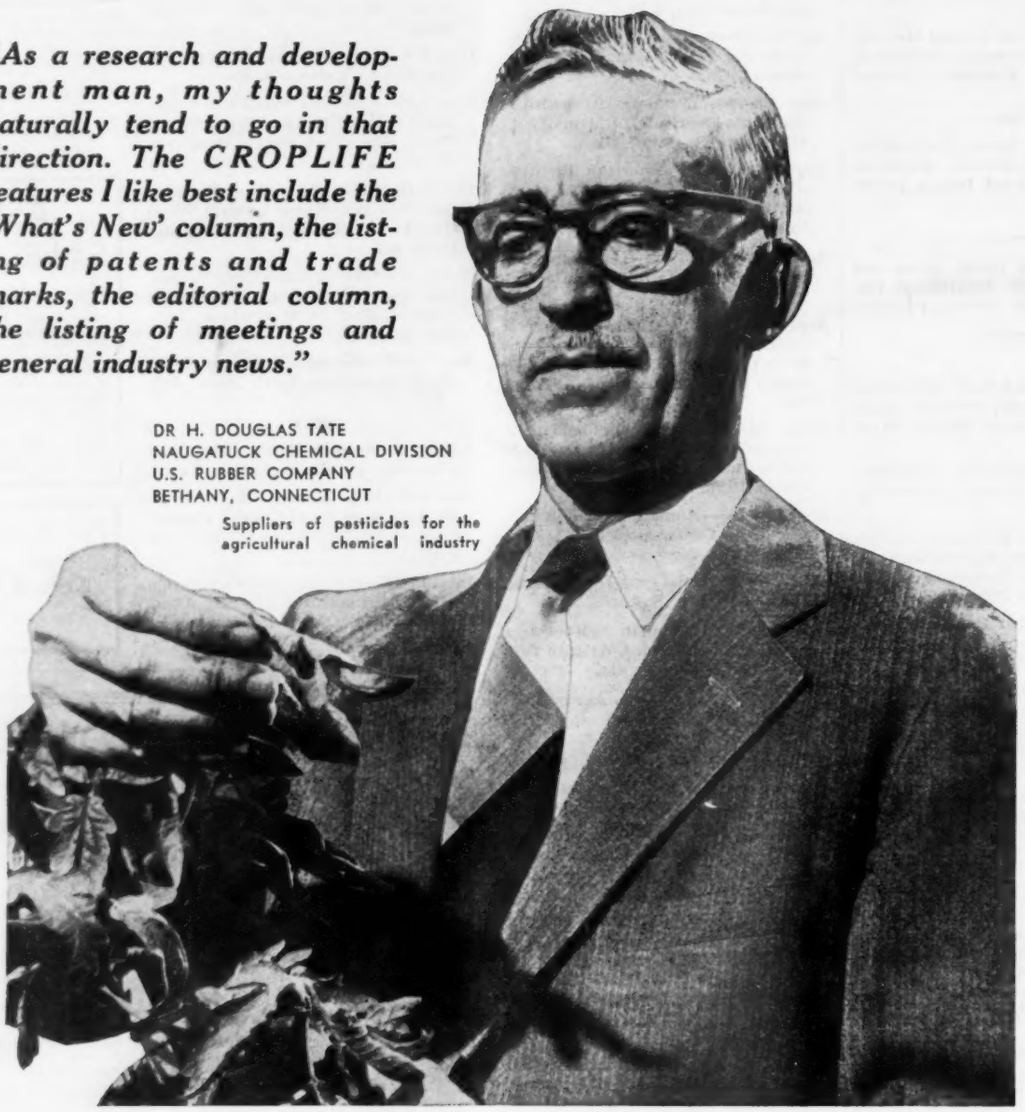
Suppliers of pesticides for the agricultural chemical industry



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